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EVALUATION OF
PRETREATMENT PROCESSES AND LONG-TERM STORAGE ON
MAGAZINE SPRING FOR THE M14, 7.62MM, RIFLE

Technical Report

A. H. LaRiviere

Date 1 February 1966

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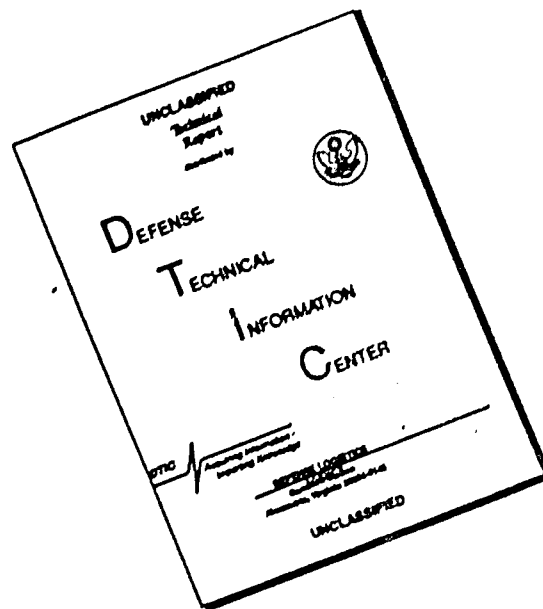
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EVALUATION OF PRETREATMENT PROCESSES AND LONG-TERM STORAGE ON
MAGAZINE SPRING FOR THE M14, 7.62MM, RIFLE

Technical Report

A. H. LaRiviere

DA PROJECT TITLE: Long-Term Storage of Loaded M14 Magazines

DA PROJECT: M1-4-23002

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ABSTRACT

A study was made to evaluate the effects of various pretreatment processes and long-term storage on the magazine spring for the M14, 7.62mm, rifle. The various pretreatment processes considered in this study were: (1) stress-relieving only, (2) stress-relieving and cold-set, (3) stress-relieving and heat-set, and (4) heat-set only. The storage tests involved periods from 1 to 5 years and consisted of hot, cold, and normal temperature conditions. Test procedures are described and results discussed.

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SUBJECT

Evaluation of Pretreatment Processes and Long-Term Storage on
Magazine Spring for the M14, 7.62MM, Rifle

OBJECTIVES

1. To determine the effects of the various pretreatment processes (heat-set, cold-set, stress-relieving only) on the subject magazine spring under storage and weapon firing test conditions (and to consider the necessity for having the heat-set notation on Drawing C-7267078 dated 18 February 1959).
2. To determine the effects of long-term storage on the subject magazine springs under the following conditions:
 - a. Normal temperature
 - b. Hot (165°F to 175°F) temperature
 - c. Cold (-65°F) temperature

CONCLUSIONS

1. The present standard spring (stress-relieving process only) indicated satisfactory results in the loaded and unloaded conditions during the storage and weapon firing test program. Resulting test data indicate that this spring assembly will meet the long-term storage requirements and function satisfactorily during weapon firing.
2. Springs which were heat-set without being stress-relieved are definitely unsuitable. (This process should not be considered in connection with any ordnance springs.)
3. The heat-setting (a costly manufacturing process) of this spring design, after stress-relieving, showed a 10 per cent increase in storage life over the present standard spring under both storage conditions. This heat-setting, however, showed no greater improvement during the weapon firing test.
4. Cold-setting (another costly process for this type of spring) showed no improvement over a plain stress-relieving operation. This is, no doubt, due to the fact that the loading of a magazine, in itself, provides an adequate cold-setting operation.

CONCLUSIONS - Continued

5. Hot storage is detrimental to spring life in the loaded magazine. This condition is evident by the number of weapon malfunctions attributable to the magazine assembly (Appendix A).

6. Cold storage was not detrimental to spring in loaded or unloaded condition after one year of storage.

7. Proper packaging of the subject magazine is considered essential when the magazines are to be subjected to adverse temperature storage conditions.

8. The critical load at mean assembled height (5.5 inches) which will allow satisfactory weapon functioning is 4.5 pounds. With loads below this level, weapon malfunctioning will occur.

RECOMMENDATIONS

1. Heat-set notation as a drawing specification be removed. (Drawing C-7267078 was revised on 15 January 1960 by the elimination of the heat-set requirement.)

2. The present standard design (stress-relieving process only) of the subject magazine be considered adequate for long-term storage requirements and subsequent weapon firing.

3. The basic and most important load requirement of 5-1/2 pounds plus 3/4 pound at 5.5 inches be maintained. Two other load check-points for final-inspection acceptance, after cold-setting to 11/16 inch three times has been accomplished, are as follows:

- a. At 8.5 inches - 2.5 pounds + 3/4 pound
- b. At 2.5 inches - 8.0 pounds + 1.0 pound

4. A new lot of subject springs be processed, properly packaged and subjected to long-term storage under the following conditions:

- a. Prescribed adverse temperatures (hot and cold)
- b. Normal weather
- c. Adverse weather, i.e., snow, rain, wind, etc.

5. The design of the present standard spring not be considered the optimum design. However, based on the test results obtained, it is believed that replacement is not necessary provided the spring is properly manufactured.

RECOMMENDATIONS - Continued

6. The dual-rate spring design (Appendix B) be considered if further studies are to be conducted on this type of magazine spring design because of the satisfactory preliminary results obtained at the beginning of this study.

7. The heat-setting process be considered for this type of spring only when the design stresses are greater than those presently exhibited in the standard M14 magazine assembly.

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1. INTRODUCTION

a. During the early manufacturing of the subject spring, questions arose primarily concerning the purpose, the need, and the cost of the heat-set specification on the subject drawing. A series of meetings were held to determine what possible design changes and what various pretreatment operations should be investigated for the best functional characteristics of the subject spring.

b. At this time, the idea of an expendable magazine was discussed and proposals of various types for this magazine assembly were submitted. Because of these proposals, the studies and the scope of the initial problems were extended to embody the effects of long- and/or short-term storage on the subject springs under conditions of normal, hot, and cold temperatures.

2. PROCEDURE

a. Forty-eight subject springs (Lot 1) were initially used at the onset of the program to examine the various pretreatment operations. When it was decided to expand the scope of the study to long-term storage, however, 100 additional springs were manufactured.

b. The initial 48 subject springs were received and processed as follows:

(1) Twenty-four, "as-wound" condition.

(a) Initial free height was recorded (all groups).

(b) Eighteen springs were stress-relieved at 400°F for 1/2 hour; this was followed by a free height and load check at assembled height of 5.5 inches.

(1) Six springs remained in as-wound condition.

(2) Six springs were cold-set to 11/16 inch three times; this cold-setting was followed by free height and load check at assembled height.

(3) Six springs were heat-set according to drawing specifications (400°F for one hour at 5 inches), this was followed by free height and load check at assembled height.

2. PROCEDURE - Continued

- (c) The remaining six "as-wound" springs were heat-set only according to the same drawing specification as in /b(3)/ above.
- (d) The above-listed springs were then categorized in the following groups:
 - (1) Stress-relieved only (Springs 1 through 6)
 - (2) Stress-relieved and cold-set (Springs 7 through 12)
 - (3) Stress-relieved and heat-set (Springs 13 through 18)
 - (4) Heat-set only (Springs 19 through 24)
- (2) Twenty-four stress-relieved and cold-set (three times to 11/16 inch) by the manufacturer were assigned as Springs 25 through 48.
- (3) The springs listed above were subjected to the following test program:
 - (a) Three springs from each group were gymnasticated on a vertical shaper at 116 strokes per minute.
 - (b) Three springs from each group were weapon-fired 2000 rounds or 100 loadings.

Exception. Three springs from the group cold-set by the manufacturer were only weapon-fired 1820 rounds or 91 loadings.
 - (c) The 18 remaining springs cold-set by the manufacturer were put into limited and long-term storage.
- c. The 100 subject springs (Lot 2) were examined as follows:
 - (1) All springs were stress-relieved for 30 minutes at 400°F. Free height and incremental load measurements were taken at the specified interval of 11 inches to 5.5 inches in 1/2-inch increments.
 - (2) Thirty-eight springs received no further treatment (stress-relieving process only) and were tested as follows:
 - (a) Ten springs stored free for 24 weeks.
 - (b) Ten springs stored in unloaded magazine for 5 years.

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2. PROCEDURE - Continued

- (c) Ten springs stored in loaded magazine for 5 years.
- (d) Four springs stored unpackaged under hot temperature condition for one full year, two in loaded magazine, two in unloaded magazine.
- (e) Four springs stored unpackaged under cold temperature condition for one full year, two in loaded magazine, two in unloaded magazine.
- (3) Thirty-eight were heat-set by compression to a height of 5 inches and heated for one hour and tested in the same manner as (b) above.
- (4) Ten springs were cold-set to 11/16 inch three times. Eight of the springs were subjected to hot and cold temperature storage test as in (2) above.
- (5) The remaining 14 subject springs received no further treatment and were not involved in any type of test.

3. DISCUSSION AND RESULTS

a. The test program involving the initial 48 subject springs was set up to evaluate the following four pretreatment processes under various test procedures: stress-relieving only, stress-relieving and cold-set, stress-relieving and heat-set, and heat-set only.

- (1) Gymnasticating tests were performed on 15 subject springs (three springs from each treatment). The test consisted of the following:
 - (a) Initial free height and load check at assembled height of 5.5 inches.
 - (b) Free height and load check after 5, 55, 155, 655, 1655, 3655, 6655, and 10,000 cycles for all springs. A few of the springs were cycled additionally as shown in the resulting data given in Appendix A.
 - (c) Gymnastication was performed on a vertical shaper at 116 strokes/minute.
 - (d) Sample springs used in this test are shown in photographs included in Appendix C. In all instances, the springs were badly distorted after the test.

3. DISCUSSION AND RESULTS - Continued

- (e) This type of test is much more severe than the test under which the magazine springs are tested during actual weapon firing and storage test. It was felt, therefore, that if the springs could withstand this testing, they could satisfactorily meet weapon functioning requirements. Since all of the springs were badly distorted, it was concluded that this was not a true type of test to prove the value of the subject springs.
- (f) Resulting data show (Appendix A) that most of the springs, with the exception of the heat-set only springs, although distorted, were within the critical load-specification considered necessary for satisfactory weapon firing.

Note 1. Critical load-specification is 4.5 pounds at 5.5 inches and will be discussed later in the report.

Note 2. The heat-set only springs were well below this critical load and it was concluded that this particular process not be considered for future ordnance use.

- (2) Weapon firing tests were conducted on 15 subject springs (three springs of each group) and consisted of the following:
 - (a) Initial free height and load check at assembled height of 5.5 inches.
 - (b) Load and free height check after weapon firing 1, 5, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 loadings (one loading - 20 rounds).

Exceptions:

- (1) Springs heat-set only were not tested because the permanent set was excessive; this condition occurred when a static load-check was performed.
- (2) Springs cold-set by manufacturer were checked after the following loadings: 5, 23, 28, 34, 40, 46, 52, 58, 64, 76, and 91.
- (c) Resulting data are shown in Appendix A.

3. DISCUSSION AND RESULTS - Continued

- (d) Sample springs used in this test are shown in photographs in Appendix C.
 - (e) No malfunctions were attributable to the magazine spring assemblies, as reported by testing personnel. In fact, all springs functioned satisfactorily. Proper manufacture of the stress-relieved only springs will produce an M14 magazine spring which will function satisfactorily.
- (3) A limited and long-term storage-program was conducted on 18 of the subject springs cold-set by a manufacturer as follows:
- (a) Eight springs stored in an unloaded magazine condition (Springs 31 to 34, 40 to 43).
 - (b) Ten springs stored in a loaded magazine condition (Springs 35 to 39, 44 to 48).
 - (c) The following free height and load check at 5.5 inches were performed during the course of the test:
 - (1) All springs initially.
 - (2) All springs after 2-month storage.

NOTE:

Springs 31, 32, 33, 37, 38, and 39 were not returned to storage after this check.

- (3) Springs 40 to 43 after 15 weeks, then subjected to 50 magazine-loadings, rechecked, and returned to storage.
- (4) Springs 34, 35, 36, 44 to 48, after 17 weeks.

NOTE:

Springs 44, 46, 48 were not returned to storage.

- (5) All springs still in storage were checked after 41 weeks and 1-1/2 years.
- (6) Storage springs were subjected to six weapon-loadings.
- (7) Storage springs were then subjected to a final incremental load-check at 11 inches to 1 inch.

3. DISCUSSION AND RESULTS - Continued

- (d) This cold-setting test shows that springs stored in a loaded condition for any length of time will exhibit an average set of 11 per cent below the minimum load-specification, but will still function satisfactorily during single weapon-loading.
 - (e) Resulting data obtained during this test phase is shown in Appendix A.
 - (f) Sample springs used in this test are shown in photographs in Appendix C.
- (4) The average results obtained during this phase of the evaluation are shown on the following page in Table I.

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Test	Procedure	Stress-Relieved		Heat-Set Only	Heat-Set and Cold-Set by Manufacturer	Heat-Set and Cold-Set by Manufacturer	Heat-Set Only
		Only	and Cold-Set				
Gymnastic Test	Original	9.6	9.5		4.0	4.6	4.6
	After Heat-Set	-	-		-	5.0	4.1
	After Cold-Set	-	6.25		-	-	-
	5	6.5	6.25		4.0	5.75	4.1
	55	6.5	6.25		6.0	5.75	4.1
	155	6.5	6.1		5.75	5.75	4.1
	655	6.4	6.1		5.75	5.75	4.1
	1655	6.3	6.1		5.75	5.75	4.1
	3655	6.1	6.0		5.6	5.6	4.0
	6655	6.0	6.0		5.6	5.6	4.0
Weapon Firing Test	10000	5.4	5.7		5.3	5.1	3.75
	Original	9.6	9.3		6.0	9.6	-
	After Heat-Set	-	-		-	5.75	4.0
	After Cold-Set	-	6.25		-	-	-
	1	6.75	6.25		-	5.75	NO
	5	6.4	6.25		5.3	5.75	TESTING
	10	6.3	6.1		5.0	5.6	ON
	20	6.3	6.1		5.0	5.6	THESE
	30	5.75	5.75		4.9	5.4	SPRINGS
	40	5.75	5.6		4.9	5.4	BECAUSE
Limited Storage Test	50	5.75	5.6		4.8	5.4	OF
	60	5.75	5.6		4.8	5.3	LOW
	70	5.75	5.6		4.75	5.25	LOADS
	80	5.75	5.6		4.75	5.25	
	90	5.6	5.6		4.6	5.25	
	100	5.6	5.6		4.6	5.2	
	Original				6.3		
	8 Weeks				4.9		
	17 Weeks				4.75		
	41 Weeks				4.6		
Limited Storage Test	1-1/2 Years				4.6		
	Six Weapon Loading				4.6		
	Original				6.3		
	8 Weeks				6.1		
	15 Weeks				6.1		
	30 Loadings				5.6		
	41 Weeks				5.5		
	1-1/2 Years				5.4		
	Six Weapon Loading				5.4		
	Unloaded						

TABLE I

STORAGE TESTS

AVERAGE RESULT - Lot 1

NOTE: All above readings
are in pounds

3. DISCUSSION AND RESULTS - Continued

b. The 100 subject springs obtained for the long- and/or short-term storage condition were all stress-relieved for 30 minutes at 400°F. Free height and incremental load measurements were then taken at 11 inches to 5.5 inches in 1/2-inch increments. All springs were well above drawing specification after this operation. This is conducted to allow for load and height losses which were incurred after further processing or treatment.

- (1) Springs 1 through 30 received no further treatment or processing, and were tested as follows:

(a) Ten springs stored free for 24 weeks.

- (1) Free heights and incremental load measurements were taken at specified intervals (11 inches to 1 inch at 1/2-inch increments).
- (2) Checks were made after 1, 8, 16, and 24 weeks.
- (3) From results obtained after 24 weeks, further testing for this condition was considered unnecessary.

(b) Ten springs stored in unloaded magazine for 5 years.

- (1) Free heights and incremental load measurements were taken at specified intervals of 11 inches to 5.5 inches at 1/2-inch increments before weapon firing test and after the 1-, 2-, 3-, and 5-year storage test and also before one dummy loading at 24 weeks. An incremental load measurement of 11 inches to 1 inch at 1/2-inch increments was then taken after weapon-firing and dummy-loading tests.
- (2) Checks were made after 1, 2, 4, 8, 12, 16, 24, and 48 weeks; and after 1, 2, 3, and 5 years storage.
- (3) Springs were never compressed beyond 5.5 inches during the 24-week storage.

(c) Ten springs stored in a fully loaded magazine for 5 years.

- (1) Free height and incremental load measurements were taken at specified intervals of 11 inches to 1 inch at 1/2-inch increments.
- (2) Checks were made after 1, 2, 4, 8, 12, and 16 weeks.

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3. DISCUSSION AND RESULTS - Continued

- (3) Checks were made before and after dummy loading at 24 weeks and weapon firing test at 48 weeks, 1, 2, 3, and 5 years.
- (2) Springs 31 through 60 were then heat-set by compression to a height of 5 inches and heated at 400°F for one hour. Similar test procedure as in (1) above were then conducted for these subject springs, i.e., free, unloaded and loaded.
- (3) Springs 61 through 70 were then cold-set by compression to a height of 11/16 inch three times and an average result of 6.2 pounds was obtained. Storage tests as above were not performed on these springs and were not considered necessary because of the results obtained during the testing of the initial 48 springs. Eight of these springs, however, were later used during the temperature (hot and cold) test.
- (4) Springs 63 through 86 were used in the hot and cold temperature storage test which will be discussed later.
- (5) Springs 87 through 100 were subjected to no further testing.
- (6) The 40 springs heat-set and stress-relieved only, which were subjected to the long-term storage program, were examined as follows after 1, 2, 3, and 5 years:
- (a) Free height
 - (b) Loaded magazines. Incremental load measurements (11 inches to 1 inch at 1/2-inch increments)
 - (c) Unloaded magazines. Incremental load measurements (11 inches to 5.5 inches at 1/2-inch increments)
 - (d) Free height
 - (e) Weapon test-fired. Six loadings for each magazine (120 rounds)
 - (f) Free height
 - (g) Incremental load measurements (11 inches to 1 inch at 1/2-inch increments) for all subject springs.

3. DISCUSSION AND RESULTS - Continued

(h) Free height

(i) The following subject springs were used in the above-mentioned test:

(1) Ten stress-relieved only loaded springs 11 - 20

(2) Ten stress-relieved only unloaded springs 21 - 30

(3) Ten stress-relieved and heat-set loaded springs 41 - 50

(4) Ten stress-relieved and heat-set unloaded springs 51 - 60

(j) The following average results (Table II) were obtained.

(7) The average results and percentages obtained during the testing of the subject springs 1 through 70 are shown in Tables III and IV which follow.

TABLE II

STORAGE TESTS

Storage Condition	Process	Original	Heat-Set	One Year plus Weapon Loading	Two Years plus Weapon Loading	Three Years plus Weapon Loading	Five Years plus Weapon Loading
Loaded	Stress-Relieved Only	9.5	-	4.8	4.6	4.6	4.6
Unloaded	Stress-Relieved Only	9.5	-	5.6	5.25	5.25	5.1
Loaded	Stress-Relieved and Heat-Set	9.5	7.1	5.25	5.0	5.0	4.9
Unloaded	Stress-Relieved and Heat-Set	9.4	7.2	5.8	5.5	5.5	5.5

No weapon malfunction attributable to the subject springs was reported by testing personnel.

The results obtained for the long-term storage springs are shown in the graph following this table.

NOTE: All above readings in pounds.

LONG-TERM STORAGE PROGRAM
AVERAGES

- x - Stress-relieved, loaded
- o - Stress-relieved, unloaded
- - Stress-relieved and heat-set, loaded
- Δ - Stress-relieved and heat-set, unloaded

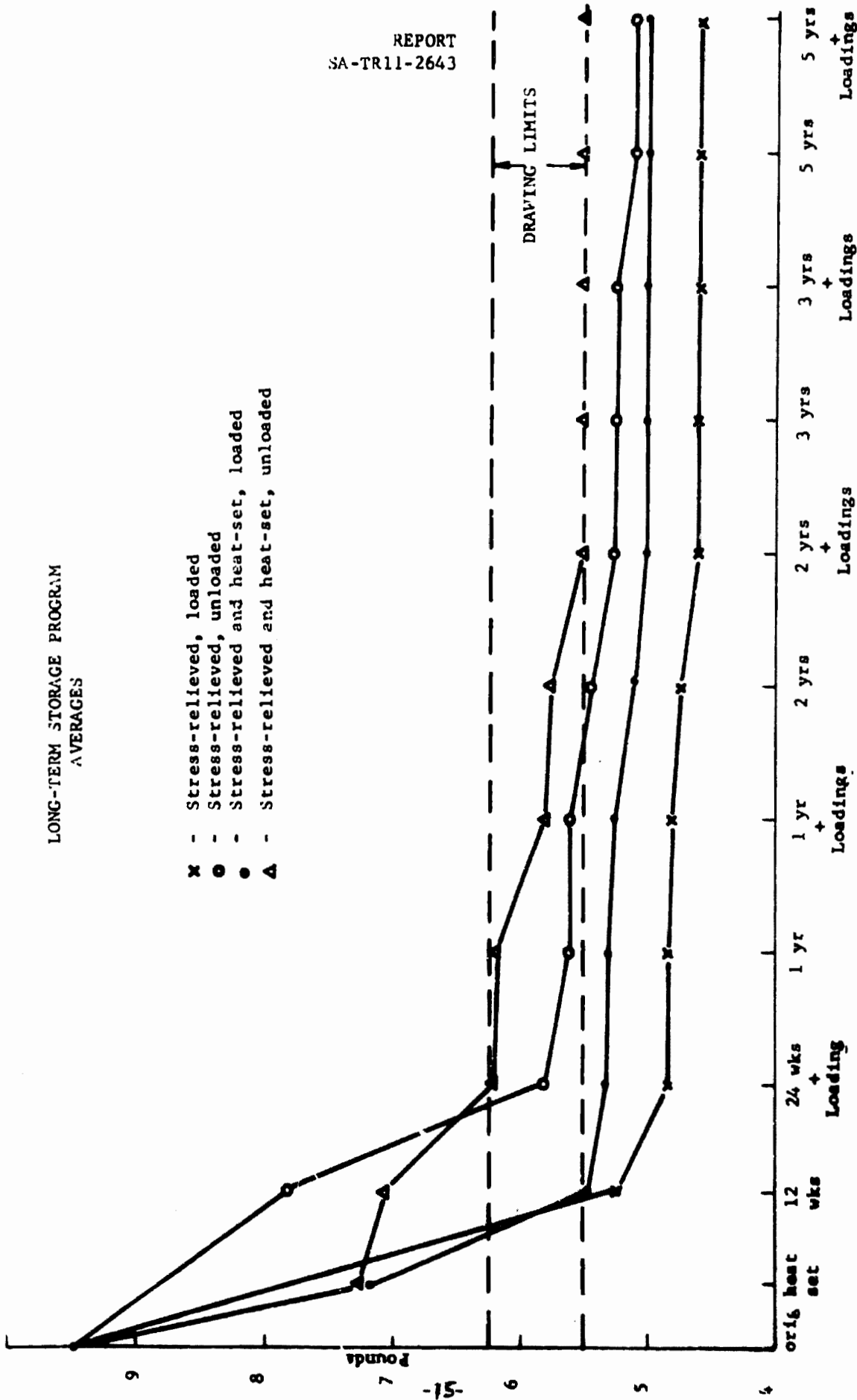


TABLE III
STORAGE TEST (Average Load)

Length of Storage and Weapon Test	<u>Free</u>		<u>Loaded</u>		<u>Unloaded</u>	
	Stress- Relieved	Stress- Relieved and Heat-Set	Stress- Relieved	Stress- Relieved and Heat-Set	Stress- Relieved	Stress- Relieved and Heat-Set
Original	9.4	9.5	9.5	9.6	9.5	9.5
After Heat-Set Operation	-	7.2	-	7.1	-	7.2
Before Storage	6.75	7.2	9.5	7.1	9.5	7.2
1 Week	6.5	6.5	5.4	5.9	8.5	7.1
2 Weeks			5.4	5.75	8.25	7.1
4 Weeks			5.3	5.75	7.9	7.0
8 Weeks	6.4	6.4	5.3	5.5	7.8	7.0
12 Weeks			5.2	5.4	7.75	7.0
16 Weeks	6.3	6.3	5.0	5.3	7.6	7.0
24 Weeks	6.25	6.25	4.8	5.3	7.5	7.0
One Loading (48) Combo 52)			4.8	5.3	5.8	6.25
					5.75	6.25
Seven Loadings			4.8	5.25	5.6	5.8
2 Years and Loading			4.6	5.0	5.25	5.5
3 Years, 19 Loadings			4.6	5.0	5.25	5.5
5 Years, 25 Loadings			4.6	4.9	5.1	5.5

NOTE: All above readings are in pounds

TABLE IV
PERCENTAGES

Process	Condition	Time	Original Loads	Load After Heat-set	Per Cent Loading	Per Cent	Final Load	Per Cent
Stress-Relieved Only	Free	24 weeks	9.4	-	-	28	6.25	34
	Loaded	5 years	9.5	-	-	13*	4.6	23*
	Unloaded	5 years	9.5	-	-	43	5.1	52
Stress-Relieved and Heat-Set	Free	24 weeks	9.5	7.2	24	7.2	6.25	13**
	Loaded	5 years	9.6	7.1	26	7.1	5.0	34
	Unloaded	5 years	9.5	7.2	24	6.25	5.4	29**
						13**		48
						34		25**
								43

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*This percentage loss was based on use of the cold-set spring load of 6.2 pounds as the standard for the stress-relieved only springs.

**This percentage loss was determined from load obtained after the heat-set process, i.e.; 7.2 pounds.

NOTE: The 3/4-pound tolerance for the load specification of 5.5 + 3/4 give a 12 per cent loss.

NOTE: All above readings are in pounds

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3. DISCUSSION AND RESULTS - Continued

c. A test was also conducted to determine the effects of long- and/or short-term storage under hot (165°F to 175°F) and cold (-65°F) temperature conditions on the subject magazine springs. (Temperatures comply with military standard specification MIL-E-4970).

- (1) Twenty-four of the subject springs from Lot 100 were used in this test program and were stored for one year in an unpackaged condition. Packaging procedures were not accomplished because the springs were to be examined at various intervals during the storage programs as specified below.
- (2) The subject springs were processed as follows:
 - (a) Eight springs stress-relieved and cold-set (Springs 63 through 70)
 - (b) Eight springs stress-relieved and heat-set (Springs 71 through 78)
 - (c) Eight springs stress-relieved only (Springs 79 through 86)
 - (d) Two springs of each group were then stored loaded and unloaded at the two temperature conditions.
- (3) The subject springs were then tested as follows for both temperature conditions:
 - (a) Unloaded magazine assembly
 - (1) Free height check
 - (2) Load check at 8.5 and 5.5 inches
 - (3) Springs were checked after 2, 4, 6, 8, 10, 14, 20, 24, 36, and 52 weeks.
 - (b) Loaded magazine assembly
 - (1) Same test procedure as above for items (1) and (3).
 - (2) Load check at 5.5 and 2.5 inches.

3. DISCUSSION AND RESULTS - Continued

- (c) All springs were subjected to six weapon loadings after the one full year storage.
- (d) All springs were given an incremental load and free height check after weapon firing only.
- (4) The average results obtained during the storage test are shown in Table V which follows. Data are shown demonstrating that the springs stored loaded under hot temperature conditions caused weapon malfunction and also that this temperature condition was very detrimental to spring life.

Note. It is felt that, if proper packaging is accomplished, better results under similar conditions may be obtained.

d. The results obtained throughout this investigation indicate that a 4.5 load at 5.5 inches (assembled magazine height) is considered a critical dimension. Loads which fall below this dimension will cause weapon malfunctioning. Therefore, a chart for an inspection acceptance load check was prepared and recommended. This chart can be found on Page 21, Table VI.

TABLE V
TEMPERATURE TEST (Average)

	<u>Hot</u>						<u>Cold</u>					
	<u>Unloaded</u>			<u>Loaded</u>			<u>Unloaded</u>			<u>Loaded</u>		
	P1	P2	P3	P2	P3	P1	P1	P2	P3	P1	P2	P3
Original	3.0	6.3	9.4	6.25	9.4	2.9	2.9	6.2	9.3	6.2	9.3	9.3
52 Weeks	2.25	5.5	6.6	3.6	6.6	2.6	2.6	5.8	7.4	4.8	7.4	7.4
After Weapon Loading	2.25	5.5	6.5	3.5	6.5	2.6	2.6	5.6	7.4	4.75	7.4	7.4
Total Loss	.75	.8	2.9	2.75	2.9	.3	.3	.6	1.9	1.45	1.9	1.9
Per Cent Loss	25	12.7	31	44	31	10.3	10.3	9.7	20.4	23.4	20.4	20.4
Original	3.5	7.0	10.3	7.5	10.3	3.75	3.75	7.3	10.5	7.2	10.5	10.5
52 Weeks	3.25	6.6	7.0	4.0	7.0	3.5	3.5	6.75	7.9	5.2	7.9	7.9
After Weapon Loading	3.1	6.1	7.0	3.9	7.0	3.0	3.0	6.0	7.8	5.2	7.8	7.8
Total Loss	.4	.9	3.3	3.6	3.3	.75	.75	1.3	2.7	2.0	2.7	2.7
Per Cent Loss	11.4	12.9	32	48	32	20	20	17.8	25.7	27.8	25.7	25.7
Original	6.5	9.6	11.8	9.6	11.8	6.5	6.5	9.75	11.9	9.75	11.9	11.9
52 Weeks	4.1	7.3	6.75	3.75	6.75	4.0	4.0	7.25	7.6	5.1	7.6	7.6
After Weapon Loading	3.0	6.1	6.6	3.6	6.6	3.25	3.25	3.65	4.3	4.65	4.3	4.3
Total Loss	3.5	3.5	5.2	6.0	5.2	3.25	3.25	3.65	4.3	4.65	4.3	4.3
Per Cent Loss	53.8	36.5	44	62.5	44	50	50	37.4	36.1	47.7	36.1	36.1

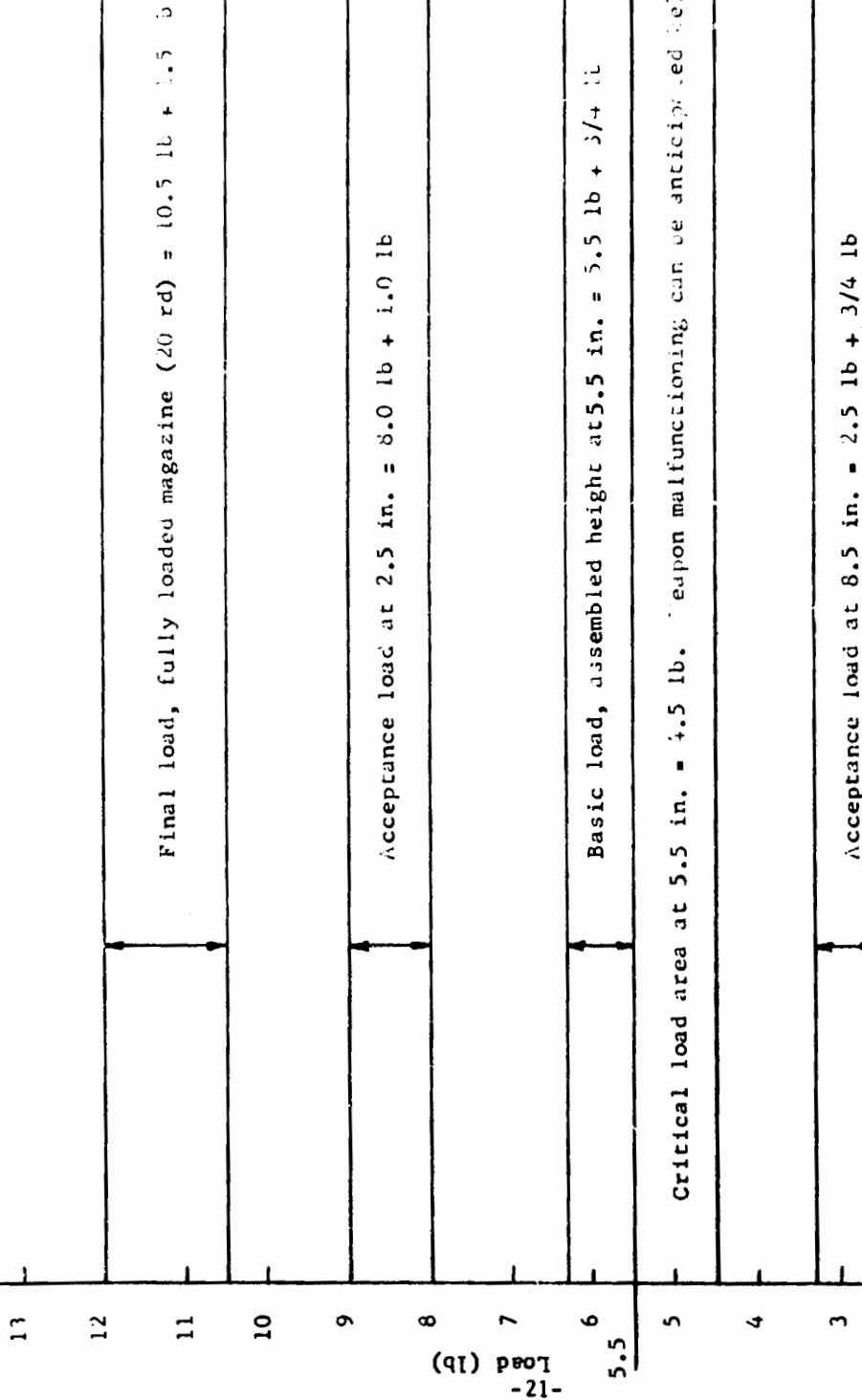
P1 - Load taken at 8.5
P2 - Load taken at 5.5
P3 - Load taken at 2.5

P1 and P2 - Unloaded Magazine
P2 and P3 - Loaded Magazine

NOTE: All above readings are in pounds

TABLE VI

RIFLE, 7.62mm, M14, SPRING, N.G. LINE (9-7267078)
ACCEPTANCE LOAD CHECK



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4. OTHER TESTS

a. It should be point out here that other tests in conjunction with this evaluation were initially conducted on experimental spring designs such as the following:

- (1) Standard plus one coil (modified)
- (2) Dual-rate design (SAC-38193, Appendix B)

b. Results revealed that the modified design (9 coils) indicated no improvement over the standard spring in either long-term storage or functional firing. Therefore, this design was not considered further. The dual-rate springs test results obtained under storage and weapon firing test were satisfactory. The principle of the utilization of the entire tube space for the magazine spring is basically sound. This allows for more uniform action of the spring follower throughout the compression stroke than with the standard spring. Since further dimensional studies were necessary to eliminate a frictional bind which occurred after a follower deflection of approximately 4 inches, this experimental design was not considered further in the test program.

APPENDICES

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A - Data Charts (28)

**B - Illustrations
(Drawings, 4)**

**C - Illustrations
(Photographs, 7)**

D - Distribution

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APPENDIX A

LOT 48 SPRINGS

- a. Gymnastication Test
- b. Weapon Firing Test
- c. Limited Storage Test

LOT 100 SPRINGS

- a. Long-Term Storage Test (5 years)
- b. Hot-Temperature Test (1 year)
- c. Cold-Temperature Test (1 year)

RIFLE, 7.62MM M14 SPRING, MAGAZINE (C-7267078)
GYMNASTICATING TEST

SPRING NUMBER	A		B		C		5 CYCLES		55 CYCLES		155 CYCLES		355 CYCLES		655 CYCLES		1655 CYCLES		3655 CYCLES		6655 CYCLES		10,000 CYCLES	
	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I
4	14.42	14.41	9.5	14.00	-	-	11.83	6.5	11.79	6.5	11.70	6.5	11.66	6.5	11.61	6.5	11.59	6.5	11.52	6.5	11.49	6.5	11.31	5.1
5	14.40	14.41	9.5	14.05	-	-	11.86	6.5	11.73	6.5	11.66	6.5	11.61	6.5	11.59	6.5	11.52	6.5	11.52	6.5	11.49	6.5	11.33	5.75
6	14.40	14.43	9.25	14.15	-	-	11.75	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
10	14.56	14.56	9.5	14.25	11.80	6.25	11.78	6.25	11.75	6.25	11.72	6.25	11.62	6.25	11.59	6.25	11.59	6.25	11.56	6.1	11.55	6.1	11.41	5.9
11	14.52	14.49	9.25	14.06	11.63	6.25	11.62	6.25	11.56	6.25	11.56	6.0	11.44	6.0	11.41	6.0	11.41	6.0	11.37	5.9	11.35	5.9	11.31	5.9
12	14.40	14.40	9.75	14.13	11.65	6.25	11.64	6.25	11.62	6.25	11.53	6.25	11.50	6.25	11.43	6.25	11.43	6.25	11.40	6.1	11.36	5.9	11.31	5.1
16	14.41	14.40	9.75	14.13	10.95	5.75	10.87	5.75	10.84	5.75	10.84	5.75	10.79	5.75	10.79	5.75	10.79	5.75	10.76	5.75	10.75	5.75	10.31	5.25
17	14.53	14.55	9.50	14.33	10.99	6.0	10.91	5.75	10.89	5.75	10.88	5.75	10.86	5.75	10.83	5.75	10.83	5.75	10.82	5.75	10.80	5.6	10.27	5.1
18	14.38	14.42	9.75	14.14	10.98	5.75	10.93	5.75	10.91	5.75	10.90	5.75	10.89	5.75	10.85	5.75	10.85	5.75	10.84	5.6	10.67	5.5	10.28	4.75
22	14.30	-	-	-	9.33	4.0	9.24	4.0	9.24	4.0	9.24	4.0	9.21	4.0	9.20	4.0	9.20	4.0	9.20	3.9	9.20	3.8	8.91	3.25
23	14.47	-	-	-	9.43	4.3	9.41	4.25	9.41	4.25	9.41	4.25	9.40	4.25	9.39	4.25	9.39	4.25	9.37	4.2	9.30	4.1	9.20	3.5
24	14.36	-	-	-	9.33	4.0	9.31	4.0	9.28	4.0	9.28	4.0	9.28	4.0	9.27	4.0	9.27	4.0	9.25	3.9	9.20	3.9	9.09	3.75
25	11.48	-	6.0	-	-	-	11.42	6.0	11.28	6.0	11.16	5.75	11.15	5.75	11.03	5.75	11.03	5.75	10.99	5.7	10.94	5.5	10.71	5.2
29	11.46	-	6.0	-	-	-	11.36	6.0	11.26	6.0	11.15	5.75	11.07	5.75	11.01	5.75	11.01	5.75	10.97	5.6	10.93	5.6	10.76	5.5
30	11.67	-	6.0	-	-	-	11.56	6.0	11.46	6.0	11.37	5.75	11.28	5.75	11.23	5.75	11.23	5.75	11.19	5.6	11.16	5.6	10.80	5.25
12,000 CYCLES																								
14,000 CYCLES																								
16,000 CYCLES																								
#20 Rds.																								
4	10.95	5.25	9.18	3.25	9.08	2.9	12.16	7.0	11.79	6.5	11.70	6.5	11.66	6.5	11.59	6.5	11.52	6.5	11.52	6.5	11.49	6.5	11.31	5.1
5	9.6	3.75	9.18	3.25	9.08	2.9	11.98	6.5	11.73	6.5	11.66	6.5	11.61	6.5	11.59	6.5	11.52	6.5	11.52	6.5	11.49	6.5	11.33	5.75
10	10.78	5.2	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
11	9.92	4.25	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
16	9.81	4.5	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
17	9.62	4.2	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
18	9.62	4.2	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
22	9.09	3.75	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
23	8.67	3.25	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
24	8.67	3.25	9.84	3.8	9.26	3.1	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
28	10.41	4.75	10.01	4.1	9.19	3.2	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
29	9.42	3.8	10.01	4.1	9.19	3.2	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9
30	9.42	3.8	10.01	4.1	9.19	3.2	11.83	6.5	11.68	6.5	11.57	6.5	11.45	6.5	11.40	6.5	11.36	6.5	11.36	6.5	11.31	6.1	11.41	5.9

REMARKS: 1. H_F = inches; P_I = pounds

2. All processing done at Springfield Armory except for Spring #28, #29, #30 cold set by manufacturer.

3. Gymnasticating test - all springs were gymnasticated on a vertical shape at 116 strokes/min.

4. #20 rounds - weapon firing prior to gymnasticating test.

5. "A" - load and free height check after springs were stress-relieved only, Spring #4, #5, #6.

"B" - free height check after "A" was done.

"C" - load and free height check,

a. Spring #10, #11, #12 (stress-relieved and cold-set).

b. Spring #16, #17, #18 (stress-relieved and heat-set).

c. Spring #22, #23, #24 (heat-set only)

6. Loads taken at compressed length of 5-1/2 inches.

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RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
WEAPON FIRING TEST

SPRING NO.	SPRING LENGTH	A		B		C		20 ROUNDS		100 ROUNDS		200 ROUNDS		400 ROUNDS		600 ROUNDS		800 ROUNDS		1000 ROUNDS		
		P ₁	H _F	P ₁	H _F	P ₁	H _F	P ₁	H _F	P ₁	H _F	P ₁	H _F	P ₁	H _F	P ₁	H _F	P ₁	H _F	P ₁	H _F	
1	14.43	14.47	9.75	11.14	-	-	11.55	6.50	11.48	6.25	11.37	6.2	11.36	6.2	11.36	5.6	11.36	5.6	11.36	5.6	11.36	5.75
2	14.44	14.52	9.75	14.27	-	-	11.56	6.75	11.77	6.50	11.71	6.4	11.67	6.4	11.67	5.75	11.67	5.75	11.67	5.75	11.67	5.9
3	14.47	14.50	9.75	14.24	-	-	12.00	7.00	11.73	6.50	11.69	6.4	11.64	6.4	11.64	5.8	11.64	5.8	11.64	5.8	11.64	6.0
7	14.40	14.40	9.75	13.91	11.55	6.25	11.55	6.25	11.55	6.25	11.47	6.25	11.43	6.25	11.43	5.75	11.43	5.75	11.43	5.75	11.43	5.75
8	14.42	14.45	9.75	14.18	11.70	6.25	11.50	6.25	11.47	6.25	11.47	6.2	11.43	6.2	11.43	5.6	11.43	5.6	11.43	5.6	11.43	5.75
9	14.39	14.40	9.75	14.07	11.55	6.25	11.52	6.25	11.47	6.25	11.47	6.0	11.31	6.0	11.31	5.4	11.31	5.4	11.31	5.4	11.31	5.6
10	14.40	14.45	9.75	14.13	11.10	5.75	11.06	5.75	10.93	5.75	10.87	5.75	10.85	5.6	10.85	5.4	10.85	5.4	10.85	5.4	10.85	5.6
14	14.36	14.37	9.75	14.10	11.02	5.75	10.92	5.75	10.84	5.75	10.82	5.75	10.82	5.5	10.82	5.5	10.82	5.5	10.82	5.5	10.82	5.6
15	14.33	14.41	9.75	14.16	11.01	5.75	10.95	5.75	10.91	5.75	10.79	5.5	10.75	5.5	10.75	5.5	10.75	5.5	10.75	5.5	10.75	5.6
1400 ROUNDS																						
TOTAL		A		B		C		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		
H _F		P ₁		H _F		P ₁		H _F		P ₁		H _F		P ₁		H _F		P ₁		H _F		
11.03		5.75		10.99		5.5		10.95		5.5		10.95		5.5		10.95		5.5		10.95		
11.29		5.8		11.25		5.75		11.20		5.75		11.20		5.75		11.20		5.75		11.20		
11.35		5.8		11.27		5.75		11.27		5.75		11.27		5.75		11.27		5.75		11.27		
11.24		5.75		11.20		5.75		11.17		5.75		11.15		5.75		11.15		5.75		11.15		
11.15		5.75		11.10		5.75		11.07		5.6		11.07		5.6		11.07		5.6		11.07		
11.03		5.6		11.01		5.6		10.99		5.6		10.97		5.6		10.97		5.6		10.97		
10.60		5.2		10.60		5.1		10.56		5.1		10.56		5.1		10.56		5.1		10.56		
10.60		5.25		10.58		5.25		10.60		5.2		10.58		5.2		10.58		5.2		10.58		
10.61		5.25		10.61		5.25		10.60		5.2		10.59		5.2		10.59		5.2		10.59		

NO TEST CONDUCTED ON THESE SPRINGS BECAUSE OF LOW LOAD READINGS.

SPRING NO.	SPRING LENGTH	ORIGINAL DATA	INITIAL DATA	NUMBER OF LOADINGS										Total	
				5	23	28	34	40	46	52	58	64	76	91	Loss
25	11.46"	11.46"	10.94"	10.67"	10.67"	10.62"	10.53"	10.53"	10.48"	10.43"	10.38"	10.38"	1.08"		
26	6.04	6.04	5.48	5.04	5.04	5.04	4.98	4.98	4.75	4.69	4.58	4.58	1.58		
27	11.38"	11.38"	10.78"	10.53"	10.52"	10.51"	10.43"	10.43"	10.41"	10.40"	10.39"	10.39"	.99"		
28	6.04	6.04	5.25	4.88	4.88	4.88	4.75	4.75	4.75	4.75	4.75	4.75	1.34		
29	11.48"	11.48"	10.93"	10.69"	10.66"	10.65"	10.57"	10.53"	10.50"	10.50"	10.45"	10.42"	1.06"		
30	6.04	6.04	5.58	5.25	5.18	5.04	5.04	5.04	4.84	4.84	4.76	4.76	1.34		

NO TEST CONDUCTED ON THESE SPRINGS BECAUSE OF LOW LOAD READINGS.

NUMBER OF LOADINGS

SPRING NO.	SPRING LENGTH	INITIAL	DATA	NUMBER OF LOADINGS										Total	
				5	23	28	34	40	46	52	58	64	76	91	Loose
25	11.46"	11.46"	6.04	10.94"	10.67"	10.62"	10.62"	10.53"	10.53"	10.53"	10.48"	10.45"	10.38"	10.38"	1.08"
26	11.38"	11.38"	6.04	10.79"	10.55"	10.52"	10.51"	10.43"	10.43"	10.43"	10.41"	10.40"	10.40"	10.39"	1.54"
27	11.48"	11.48"	6.04	10.93"	10.69"	10.66"	10.65"	10.57"	10.53"	10.53"	10.50"	10.50"	10.45"	10.42"	1.04"
				5.54	5.25	5.18	5.04	5.04	5.04	5.04	4.84	4.84	4.74	4.74	1.34

REMARKS:

1. H_F = inches; P₁ = pounds
2. All processing done at the Springfield Armory.
3. Loads taken at compressed length of 5-1/2 inches.
4. Actual weapon firing test
5. "A" - Load and free check after springs were stress-relieved "only", Springs #1, #2, #3.
 "B" - Free length after "A" was done.
 "C" - Free length and load check taken after:
 - a. Stress-relieving and cold-setting for Springs #7, #8, #9.
 - b. Stress-relieving and heat-set for Springs #13, #14, #15.
 - c. Heat-set "only" for Springs #19, #20, #21.
 - d. Cold-set by manufacturer for Springs #25, #26, #27.

SUBJECT SPRINGS - LIMITED STORAGE TEST

SPR NO	CRITICAL	MAGAZINE	2 MONTHS		15 WEEKS		50 LOADINGS		17 WEEKS		41 WEEKS		1 1/2 YEARS		AFTER 6 LOADINGS		TOTAL LOSS		% SEE REMARKS * TEST BRANCH COMMENTS			
			H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I	H _F	P _I				
31	11.32	6.0	UNLOADED	11.70	5.75													.5	FUNCTIONED OK			
32	11.24	6.0	"	11.15	5.75													1.65	5 STUBBED RDS			
33	11.73	6.25	"	11.61	6.25													1.7	1 STUBBED RDS			
34	11.61	6.25	"	11.49	6.25																	
35	11.63	6.25	LOADED	10.80	4.8																	
36	11.52	6.2	"	10.50	4.9																	
37	11.84	6.75	"	10.65	5.1																	
38	11.79	6.5	"	10.65	5.0																	
39	11.80	6.5	"	10.66	5.0																	
40	11.71	5.5	UNLOADED	11.57	6.25	11.56	6.1	10.84	5.6			10.84	5.4	10.84	5.3	10.80	5.3	.91	1.2	FUNCTIONED OK		
41	11.71	6.5	"	11.59	6.25	11.54	6.25	10.97	5.6			10.96	5.6	10.95	5.4	10.94	5.4	.92	1.1	FUNCTIONED OK		
42	11.42	6.0	"	11.27	5.9	11.26	5.9	10.62	5.4			10.62	5.3	10.62	5.25	10.50	5.25	.92	1.75	1 STUBBED RDS		
43	11.76	6.5	"	11.61	6.25	11.50	6.25	11.09	5.75			11.05	5.6	11.05	5.5	10.86	5.5	.90	1.0	2 STUBBED RDS		
44	11.26	5.75	LOADED	10.35	4.7					10.25	4.6											
45	11.49	6.25	"	10.41	4.75					10.32	4.7	10.25	4.6	10.20	4.6	10.16	4.6	1.33	1.65	2 STUBBED RDS		
46	11.57	6.5	"	10.47	5.0					10.39	4.7											
47	11.70	6.25	"	10.59	5.1					10.52	4.8	10.36	4.6	10.30	4.6	10.30	4.6	1.40	1.65	FUNCTIONED OK		
48	11.60	6.25	"	10.50	4.9					10.44	4.8											
LOAD (LBS) AT COMPRESSED HEIGHT OF 4.5 INCHES																			TOTAL LOSS			
11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0		1.5	1.0	
10.80	0	.25	.6	1.0	1.6	2.1	2.6	3.25	4.0	4.5	5.0	5.2	5.9	6.5	7.0	7.5	8.0	8.6	9.1	9.5	10.5	10.75
10.76	0	.25	.6	1.0	1.6	2.1	2.6	3.25	4.0	4.5	5.0	5.4	5.9	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.6	10.77
10.50	0	0	.6	1.0	1.4	2.0	2.5	3.0	3.75	4.25	4.8	5.25	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	10.4	10.48
10.86	0	.25	.6	1.0	1.6	2.1	2.6	3.25	4.0	4.5	5.0	5.5	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.5	10.75	10.85
10.24	0	0	.3	.75	1.25	1.6	2.1	2.6	3.25	3.8	4.3	4.6	5.3	5.8	6.4	7.0	7.5	8.0	8.5	9.0	10.0	10.20
10.20	0	0	.25	.75	1.25	1.6	2.1	2.6	3.25	3.8	4.3	4.6	5.3	5.8	6.4	7.0	7.5	8.0	8.5	9.0	9.3	10.16
10.16	0	0	.25	.75	1.25	1.6	2.1	2.6	3.25	3.8	4.3	4.6	5.3	5.8	6.4	7.0	7.5	8.0	8.5	9.0	9.3	10.16
10.30	0	0	.7	.75	1.25	1.6	2.1	2.6	3.25	3.8	4.3	4.6	5.3	5.8	6.4	7.0	7.5	8.0	8.4	8.9	9.8	10.14
10.92	0	.5	.75	1.25	1.8	2.25	2.8	3.4	4.1	4.6	5.1	5.75	6.25	6.75	7.25	7.75	8.25	8.75	9.25	9.75	10.75	10.88

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14, SPRING, MAGAZINE, C7267078
STORAGE TEST - ORIGINAL

LINE	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF (---) INCHES																PRE-TEMP.
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	
1	14.45	3.5	4.0	4.6	5.25	5.8	6.4	6.8	7.6	8.2	8.5	9.1	9.4	9.6	9.5	10.6	11.25	12.4
2	14.30	3.5	4.0	4.5	5.1	5.6	6.25	6.8	7.5	8.1	8.5	8.9	9.3	9.4	9.4	10.25	10.75	12.4
3	14.41	3.4	3.9	4.5	5.25	5.75	6.3	6.75	7.35	8.0	8.5	8.9	9.3	9.5	10.1	10.5	10.5	12.4
4	14.46	3.4	4.0	4.5	5.25	5.75	6.4	6.75	7.3	8.1	8.5	8.9	9.4	9.75	10.2	10.7	10.6	12.4
5	14.41	3.4	4.0	4.4	5.1	5.75	6.25	6.8	7.35	8.0	8.3	9.0	9.25	9.6	9.75	10.8	11.25	12.4
6	14.41	3.5	3.8	4.4	5.2	5.75	6.3	6.8	7.25	8.0	8.4	9.0	9.5	10.0	10.25	10.3	10.9	12.0
7	14.26	3.3	3.75	4.5	5.2	5.75	6.4	6.75	7.25	8.0	8.5	8.9	9.4	9.6	10.0	10.5	10.6	12.4
8	14.43	3.6	4.0	4.6	5.4	6.0	6.6	7.25	7.6	8.25	8.8	9.25	9.5	10.1	10.5	10.9	11.9	12.8
9	14.48	3.5	4.0	4.7	5.25	5.8	6.5	7.25	7.75	8.2	8.75	9.4	9.5	9.25	9.5	10.4	10.9	12.25
10	14.43	3.5	4.0	4.7	5.25	5.9	6.5	7.1	7.75	8.2	8.75	9.2	9.6	10.0	10.6	11.2	11.5	12.5
11	14.45	3.25	3.8	4.6	5.1	5.75	6.4	6.8	7.5	8.1	8.4	9.1	9.4	9.4	9.4	10.6	11.9	12.5
12	14.33	3.25	3.8	4.4	5.0	5.5	6.2	6.75	7.2	8.0	8.5	8.9	9.3	9.3	9.3	10.6	11.9	13.82
13	14.41	3.5	4.25	4.75	5.4	6.0	6.5	7.1	7.75	8.1	8.75	9.25	9.75	9.75	9.75	10.6	11.9	14.11
14	14.45	3.5	4.0	4.75	5.3	6.0	6.6	7.1	7.6	8.25	8.75	9.25	9.75	9.75	9.75	10.6	11.9	14.19
15	14.27	3.5	4.0	4.75	5.0	5.75	6.5	6.8	7.4	8.1	8.4	9.1	9.4	9.4	9.4	10.6	11.9	13.99
16	14.47	3.5	4.1	4.75	5.4	5.75	6.6	6.9	7.75	8.1	8.75	9.1	9.75	9.75	9.75	10.6	11.9	14.22
17	14.36	3.5	4.0	4.5	5.25	5.8	6.4	7.0	7.6	8.1	8.5	9.0	9.4	9.4	9.4	10.6	11.9	13.99
18	14.35	3.4	4.0	4.6	5.25	5.8	6.4	6.9	7.4	8.1	8.6	9.2	9.4	9.4	9.4	10.6	11.9	14.04
19	14.53	3.5	4.0	4.6	5.25	5.8	6.6	6.9	7.4	8.1	8.5	9.0	9.6	9.6	9.6	10.6	11.9	14.09
20	14.46	3.6	4.25	4.8	5.4	6.0	6.5	7.2	7.75	8.3	8.8	9.1	9.6	9.6	9.6	10.6	11.9	14.11
21	14.43	3.5	4.0	4.5	5.25	5.75	6.5	7.0	7.5	8.1	8.6	9.25	9.5	9.5	9.5	10.6	11.9	14.21
22	14.41	3.75	4.0	4.6	5.25	5.9	6.4	7.0	7.5	8.0	8.5	9.25	9.5	9.5	9.5	10.6	11.9	14.12
23	14.27	3.25	3.8	4.5	5.1	5.6	6.25	7.0	7.5	8.25	8.5	9.25	9.5	9.5	9.5	10.6	11.9	14.01
24	14.36	3.25	4.0	4.5	5.1	5.75	6.25	6.9	7.5	8.1	8.6	9.25	9.5	9.5	9.5	10.6	11.9	14.11
25	14.43	3.5	4.0	4.5	5.1	5.9	6.25	7.0	7.5	8.0	8.6	9.1	9.5	9.5	9.5	10.6	11.9	14.17
26	14.33	3.5	4.0	4.6	5.0	6.0	6.5	7.0	7.5	8.1	8.6	9.25	9.6	9.6	9.6	10.6	11.9	14.01
27	14.47	3.6	4.25	5.0	5.5	6.0	6.5	7.1	7.6	8.25	8.75	9.25	9.5	9.5	9.5	10.6	11.9	14.09
28	14.37	3.5	4.0	4.6	5.25	5.9	6.4	7.0	7.5	8.1	8.6	9.0	9.5	9.5	9.5	10.6	11.9	14.07
29	14.52	3.5	4.25	4.8	5.4	6.0	6.5	7.1	7.6	8.25	8.75	9.25	9.6	9.6	9.6	10.6	11.9	14.21
30	14.47	3.6	4.25	5.0	5.25	6.0	6.5	7.25	7.75	8.25	8.75	9.4	9.75	9.75	9.75	10.6	11.9	14.14
31	14.39	3.5	4.1	4.9	5.25	6.0	6.5	7.25	7.75	8.25	8.5	9.25	9.5	9.5	9.5	10.6	11.9	14.09
32	14.31	3.5	4.0	4.9	5.1	6.0	6.4	7.0	7.5	8.1	8.5	9.0	9.3	9.3	9.3	10.6	11.9	14.01
33	14.33	3.5	4.0	4.6	5.1	5.9	6.25	7.0	7.5	8.0	8.6	9.1	9.5	9.5	9.5	10.6	11.9	14.05
34	14.43	3.5	4.1	4.75	5.25	5.9	6.5	7.1	7.75	8.25	8.75	9.25	9.6	9.6	9.6	10.6	11.9	14.14
35	14.53	3.6	4.25	4.9	5.25	6.0	6.5	7.1	7.6	8.25	8.75	9.25	9.5	9.5	9.5	10.6	11.9	14.24
36	14.47	3.6	4.25	5.0	5.25	5.9	6.5	7.25	7.75	8.25	8.6	9.25	9.6	9.6	9.6	10.6	11.9	14.17
37	14.44	3.6	4.4	4.9	5.5	5.9	6.5	7.1	7.6	8.25	8.75	9.25	9.5	9.5	9.5	10.6	11.9	14.16
38	14.44	3.5	4.1	4.75	5.25	6.0	6.5	7.1	7.6	8.25	8.75	9.25	9.6	9.6	9.6	10.6	11.9	14.09
39	14.49	3.5	4.25	4.8	5.4	6.0	6.5	7.1	7.6	8.25	8.75	9.25	9.5	9.5	9.5	10.6	11.9	14.15
40	14.41	3.5	4.0	4.75	5.25	6.0	6.5	7.0	7.5	8.0	8.6	9.25	9.5	9.5	9.5	10.6	11.9	14.11

REMARKS:

1. Subject Spring Lot #2 (untreated)
2. Basic check after being stress-relieved for 30 minutes at 400°F. Phase 1 for all 100 springs.
3. All springs in free condition.
4. Springs 1-10 (only) given original load to 1.0 inches. All others to 5.5 inches.
5. Type of processing on springs after basic check.
 - a. 1-30 stress relieve "only"
 - b. 31-60 stress-relieve and heat-set - compress to 5 inches, heat at 400°F for one hour.
 - c. 61-70 stress-relieve and cold-set - compress to 11/16 inches three times.
 - d. 71-86 - used in temperature storage test.
 - e. 87-100 - no further test.
6. All processing was done at Springfield Armory.
7. *Basic inspection load after cold-setting. 5.5 lbs + 3/4 lbs.

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - ORIGINAL

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES														FREE LENGTH						
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5		4.0	3.5	3.0	2.5	2.0	1.5
41	14.50	3.6	4.3	4.75	5.3	5.75	6.5	7.0	7.5	8.1	8.75	9.25	9.75									14.24
42	14.43	3.6	4.3	4.6	5.3	5.9	6.4	7.1	7.5	8.2	8.75	9.0	9.6									14.21
43	14.33	3.3	3.9	4.5	5.2	5.75	6.3	6.75	7.3	7.9	8.25	9.0	9.5									14.03
44	14.41	3.5	4.0	4.75	5.3	5.9	6.4	7.0	7.5	8.0	8.25	8.9	9.4									14.11
45	14.29	3.4	3.75	4.5	5.25	5.75	6.25	6.9	7.5	8.0	8.4	8.9	9.4									14.07
46	14.31	3.4	4.0	4.7	5.3	5.5	6.4	6.9	7.4	8.0	8.3	9.0	9.4									14.03
47	14.43	3.5	4.1	4.5	5.3	5.75	6.4	7.1	7.6	8.0	8.6	9.0	9.3									14.10
48	14.40	3.5	4.1	4.5	5.3	5.9	6.4	7.0	7.75	8.1	8.6	9.1	9.6									14.15
49	14.35	3.4	4.0	4.6	5.2	5.75	6.25	6.8	7.5	8.1	8.6	9.0	9.4									14.03
50	14.33	3.6	3.9	4.6	5.25	5.9	6.4	6.9	7.6	8.2	8.6	9.1	9.4									14.11
51	14.56	3.6	4.25	4.9	5.4	6.0	6.5	7.2	7.6	8.25	8.8	9.2	9.3									14.24
52	14.51	3.5	4.2	4.75	5.4	6.0	6.5	7.2	7.5	8.1	8.7	9.1	9.4									14.19
53	14.43	3.5	4.1	4.75	5.5	5.9	6.3	7.1	7.7	8.1	8.6	9.1	9.4									14.15
54	14.43	3.5	4.2	4.6	5.4	5.9	6.5	7.0	7.5	8.4	8.75	9.2	9.6									14.15
55	14.45	3.5	4.1	4.75	5.3	6.0	6.6	7.25	7.5	8.3	8.75	9.25	9.6									14.13
56	14.46	3.6	4.25	4.875	5.25	6.0	6.5	7.25	7.5	8.25	8.75	9.25	9.6									14.15
57	14.45	3.75	4.25	4.75	5.5	6.0	6.5	7.0	7.5	8.0	8.75	9.375	9.75									14.17
58	14.53	3.5	4.0	4.75	5.25	6.0	6.5	7.25	7.5	8.25	8.75	9.25	9.75									14.15
59	14.40	3.5	4.25	4.875	5.5	6.0	6.5	7.0	7.75	8.25	8.75	9.25	9.625									14.31
60	14.46	3.5	4.0	4.75	5.25	5.875	6.5	7.25	7.50	8.25	8.75	9.25	9.625									14.17
61	14.46	3.6	4.2	4.9	5.5	6.0	6.6	7.1	7.75	8.4	8.9	9.4	9.8									14.25
62	14.47	3.7	4.2	4.9	5.6	6.0	6.6	7.25	7.75	8.5	9.75	9.5	9.7									14.19
63	14.51	3.6	4.2	4.8	5.5	6.0	6.5	7.2	7.6	8.25	8.9	9.4	9.8									14.25
64	14.52	3.6	4.25	4.8	5.4	6.0	6.6	7.2	7.75	8.25	8.9	9.3	9.8									14.25
65	14.25	3.4	4.0	4.6	5.25	5.75	6.3	7.0	7.5	7.9	8.5	9.25	9.4									13.98
66	14.23	3.4	4.1	4.6	5.3	5.9	6.4	7.1	7.5	8.0	8.6	9.25	9.5									13.99
67	14.32	3.3	3.9	4.6	5.1	5.8	6.2	6.8	7.5	7.8	8.5	9.0	9.4									14.06
68	14.46	3.5	4.25	4.8	5.5	6.0	6.75	7.2	7.75	8.2	8.75	9.3	9.75									14.19
69	14.44	3.7	4.25	4.8	5.3	6.0	6.6	7.1	7.6	8.2	8.6	9.25	9.7									14.19
70	14.29	3.5	4.25	4.6	5.1	5.8	6.4	7.0	7.5	8.0	8.75	9.1	9.4									14.02
71	14.44	3.4	3.9	4.75	5.4	6.0	6.6	7.1	7.8	8.2	8.8	9.25	9.7									14.17
72	14.53	3.6	4.0	5.1	5.4	6.0	6.5	7.1	7.75	8.4	8.75	9.25	9.5									14.23
73	14.51	3.6	4.25	4.9	5.4	6.0	6.6	7.25	7.5	7.8	8.75	9.25	9.6									14.23
74	14.43	3.6	4.25	5.1	5.4	6.0	6.6	7.0	7.6	8.25	8.9	9.1	9.75									14.19
75	14.50	3.6	4.2	4.9	5.6	6.25	6.6	7.1	7.9	8.25	8.9	9.4	9.6									14.25
76	14.45	3.6	4.4	5.1	5.5	6.0	6.6	7.2	7.9	8.4	8.9	9.5	9.6									14.15
77	14.52	3.6	4.2	4.9	5.4	6.1	6.6	7.3	7.7	8.4	8.9	9.3	9.7									14.27
78	14.46	3.4	4.1	4.6	5.3	5.9	6.4	7.0	7.6	8.2	8.6	9.1	9.6									14.24
79	14.41	3.5	4.1	4.8	5.4	5.6	6.4	7.0	7.4	8.2	8.7	9.3	9.6									14.17
80	14.39	3.5	4.0	4.6	5.4	5.7	6.4	7.1	7.6	8.1	8.7	9.1	9.7									14.17

REMARKS: None

APPENDIX A

REPORT
SA-TR11-2643

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - ORIGINAL

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES												FREE LENGTH									
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5		5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0
81	14.55	3.75	4.2	4.9	5.5	6.1	6.6	7.1	7.6	8.3	8.75	9.25	9.8										14.21
82	14.53	3.75	4.3	4.9	5.6	6.1	6.6	7.2	7.75	8.4	8.8	9.25	9.75										14.28
83	14.45	3.6	4.2	4.75	5.4	6.0	6.4	7.0	7.7	8.2	8.75	9.25	9.6										14.07
84	14.43	3.6	4.2	4.7	5.3	5.9	6.4	7.0	7.75	8.2	8.8	9.25	9.6										14.17
85	14.45	3.6	4.2	4.75	5.4	6.1	6.6	7.1	7.7	8.2	8.75	9.3	9.6										14.12
86	14.51	3.7	4.1	5.0	5.9	6.0	6.5	7.2	7.75	8.1	8.75	9.3	9.7										14.25
87	14.45	3.5	4.0	4.8	5.5	6.0	6.5	7.2	7.5	8.5	8.9	9.4	9.75										14.16
88	14.48	3.6	4.1	5.0	5.4	6.1	6.6	7.1	7.75	8.4	8.9	9.25	9.75										14.19
89	14.46	3.6	4.25	4.9	5.5	6.1	6.6	7.1	7.75	8.3	8.9	9.2	9.75										14.11
90	14.50	3.6	4.2	4.9	5.4	5.9	6.4	7.2	7.75	8.25	8.75	9.25	9.6										14.17
91	14.45	3.5	4.0	4.7	5.25	5.9	6.4	7.1	7.7	8.25	8.75	9.25	9.6										14.17
92	14.46	3.6	4.25	4.6	5.25	5.75	6.4	7.0	7.6	8.2	8.75	9.25	9.6										14.09
93	14.52	3.75	4.4	4.75	5.3	6.0	6.6	7.0	7.6	8.2	8.75	9.4	9.7										14.15
94	14.44	3.6	4.2	4.9	5.6	5.9	6.5	7.1	7.6	8.2	8.6	9.25	9.6										14.14
95	14.49	3.4	4.1	4.9	5.3	6.0	6.5	7.2	7.4	8.2	8.75	9.25	9.4										14.17
96	14.47	3.6	4.1	4.75	5.4	6.1	6.5	7.0	7.75	8.2	8.75	9.25	9.7										14.21
97	14.45	3.6	4.4	4.8	5.6	6.0	6.6	7.2	7.9	8.25	8.7	9.3	9.6										14.19
98	14.46	3.6	4.3	4.7	5.6	6.25	6.5	7.0	7.75	8.4	8.9	9.25	9.6										14.11
99	14.17	3.4	4.2	4.9	5.0	6.4	6.4	6.9	7.3	8.2	8.6	9.3	9.7										13.95
100	14.55	3.6	4.1	4.7	5.4	6.1	6.4	6.6	7.2	7.9	8.3	8.9	9.7										14.25

REMARKS: None

REPORT
SA-TR11-2643

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-726707B)
STORAGE TEST - see Remarks

APPENDIX A

SPRING NO.	PAGE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																	PAGE LENGTH			
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0		2.5	2.0	1.5
1	11.81	.75	1.1	1.6	2.2	2.7	3.25	3.75	4.3	5.0	5.6	6.1	6.7	7.1	7.8	8.4	9.2	9.6	9.8	10.25	10.8	11.74
2	12.00	.75	1.25	1.75	2.4	3.0	3.5	3.9	4.6	5.2	5.75	6.4	6.8	7.5	8.1	8.75	9.5	10.0	10.1	10.7	11.4	11.89
3	11.97	.9	1.4	2.0	2.4	3.0	3.5	4.0	4.5	5.25	5.9	6.4	6.9	7.5	7.9	8.7	9.2	10.1	10.25	11.0	11.6	11.87
4	11.81	.8	1.2	1.6	2.25	2.75	3.25	3.75	4.4	4.9	5.5	5.8	6.6	7.2	7.75	8.3	8.9	9.5	9.8	10.25	11.0	12.4
5	11.65	.75	1.1	1.6	2.4	3.0	3.6	4.25	4.75	5.25	5.75	6.25	6.75	7.35	8.0	8.25	9.0	9.75	10.75	11.0	11.25	11.52
6	11.99	1.0	1.4	1.85	2.35	3.0	3.5	4.0	4.75	5.25	5.75	6.25	6.75	7.25	8.0	8.50	9.0	9.75	10.5	10.75	11.0	11.91
7	11.99	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.75	5.25	5.75	6.25	6.875	7.375	8.125	8.75	9.25	10.0	10.5	10.75	11.25	11.77
8	11.93	.75	1.25	1.75	2.25	2.75	3.5	4.0	4.6	5.1	5.75	6.25	6.6	7.25	8.0	8.6	9.3	9.75	10.25	10.75	11.25	11.77
9	11.97	.8	1.25	1.75	2.25	2.8	3.5	4.0	4.6	5.25	5.6	6.25	6.75	7.3	8.0	8.5	9.1	9.75	10.1	10.75	11.0	11.85
10	11.97	.75	1.1	1.6	2.00	2.75	3.25	3.75	4.3	4.8	5.5	6.0	6.5	7.1	7.75	8.3	8.8	9.5	9.8	10.5	11.0	11.69
11	14.11	3.5	4.0	4.6	4.875	5.75	6.2	6.75	7.0	8.0	8.5	9.25	9.7	10.1	10.5	10.75	11.25	12.75	12.50	12.50	12.0	12.07
12	13.82	3.1	3.7	4.25	4.8	5.3	6.0	6.5	7.0	7.6	8.3	9.0	9.5	10.0	10.25	10.6	10.75	11.75	12.3	12.00	11.75	11.96
13	14.11	3.1	3.75	4.25	4.8	5.3	6.1	6.6	7.1	7.8	8.5	9.25	9.5	10.2	10.25	10.75	10.75	11.50	12.00	12.10	12.00	12.75
14	14.19	3.25	3.75	4.3	4.75	5.3	6.0	6.6	7.25	7.75	8.5	9.1	9.6	10.25	10.75	11.00	11.50	12.00	12.10	12.10	13.00	12.05
15	13.99	3.0	3.75	4.25	4.8	5.3	6.0	6.6	7.0	7.75	8.25	8.8	9.5	9.8	10.25	10.75	11.00	11.6	12.00	12.25	12.10	12.75
16	14.22	3.25	3.8	4.3	4.8	5.6	6.1	6.75	7.25	7.6	8.3	9.1	9.75	10.25	10.6	11.00	11.00	11.25	12.00	12.25	12.25	13.00
17	13.99	3.25	3.6	4.25	4.75	5.3	6.0	6.5	7.0	7.75	8.3	9.1	9.5	10.0	10.25	10.8	11.00	11.5	12.1	12.25	12.1	12.60
18	14.04	3.1	3.6	4.25	4.75	5.3	6.0	6.5	7.0	7.75	8.25	9.0	9.5	9.75	10.3	10.75	11.00	11.5	12.00	12.25	12.1	11.90
19	14.09	3.0	3.5	4.25	4.75	5.25	6.0	6.5	7.0	7.75	8.25	9.0	9.6	10.0	10.3	10.8	11.25	11.5	12.00	12.25	12.1	11.95
20	14.11	3.25	3.75	4.25	4.8	5.3	6.0	6.75	7.25	7.75	8.25	9.1	9.6	10.0	10.3	10.8	11.25	11.5	12.1	12.25	12.0	12.13
21	14.21	3.1	3.7	4.25	4.9	5.6	6.1	6.75	7.25	8.1	8.6	9.25	9.5	10.5	10.3	10.8	11.3	11.6	12.7	12.25	12.0	12.03
22	14.12	3.1	3.7	4.25	4.9	5.4	6.1	6.75	7.3	7.9	8.5	9.0	9.4	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
23	14.01	3.0	3.6	4.25	4.8	5.3	6.1	6.6	7.25	7.8	8.7	9.2	9.5	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
24	14.11	3.1	3.75	4.3	4.8	5.3	6.1	6.7	7.25	7.75	8.5	9.2	9.5	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
25	14.17	3.1	3.75	4.3	4.8	5.3	6.1	6.75	7.25	7.9	8.5	9.25	9.5	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
26	14.01	3.1	3.6	4.3	4.9	5.6	6.0	6.7	7.2	7.75	8.5	9.0	9.4	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
27	14.09	3.2	3.8	4.4	5.0	5.6	6.1	6.75	7.3	7.9	8.5	9.0	9.5	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
28	14.07	3.1	3.6	4.3	5.0	5.6	6.1	6.7	7.3	7.8	8.4	8.9	9.4	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
29	14.21	3.25	3.7	4.4	5.0	5.6	6.1	6.7	7.25	7.9	8.5	9.2	9.5	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15
30	14.14	3.25	3.9	4.25	5.0	5.6	6.25	6.75	7.25	8.0	8.4	9.1	9.6	10.4	10.3	10.8	11.3	11.6	12.7	12.25	12.0	14.15

- REMARKS:
1. Above springs were stress-relieved for 30 minutes at 400°F only.
 2. Above load readings were taken before assembly into magazine.
 3. a. Springs 1 thru 10 were stored free.
b. Springs 11 thru 20 were stored in loaded magazine (20 rounds).
c. Springs 21 thru 30 were stored in empty magazine.

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - see Remarks

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																	FREE LENGTH				
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0		2.5	2.0	1.5	1.0
31	12.05	.9	1.6	2.2	2.6	3.1	3.7	4.4	5.0	5.3	6.2	6.7	7.3	7.9	8.3	9.1	9.8	10.0	10.3	10.7	11.0	12.2	11.63
32	12.29	.8	1.4	2.0	2.5	3.1	3.6	4.2	4.7	5.2	5.9	6.5	7.1	7.7	8.3	8.9	9.2	9.9	10.2	10.7	11.0	12.2	11.55
33	12.09	1.1	1.6	2.2	2.7	3.4	3.9	4.2	5.0	5.6	6.0	6.6	7.2	7.8	8.3	9.1	9.6	10.2	10.6	10.7	11.0	12.0	11.63
34	12.15	.9	1.4	2.0	2.5	3.0	3.7	4.2	4.7	5.4	5.7	6.5	7.1	7.7	8.3	9.0	9.3	9.9	10.5	10.6	11.1	12.0	11.53
35	12.25	1.1	1.5	2.1	2.7	3.3	3.7	4.4	4.9	5.6	6.0	6.6	7.4	7.7	8.5	9.0	9.6	10.2	10.6	10.9	11.2	12.1	11.67
36	12.17	1.0	1.6	2.0	2.7	3.2	3.7	4.2	4.9	5.5	6.0	6.6	7.2	7.7	8.4	9.4	9.5	10.2	10.8	11.1	11.4	12.2	11.65
37	12.22	.9	1.5	2.1	2.6	3.1	3.7	4.4	4.9	5.5	6.1	6.6	7.2	7.9	8.5	9.0	9.6	10.2	10.7	10.7	11.3	12.0	11.65
38	12.13	1.0	1.5	2.1	2.7	3.2	3.6	4.2	4.9	5.4	6.1	6.6	7.2	7.9	8.5	9.1	9.5	10.2	10.7	10.7	11.1	12.2	11.55
39	12.19	.9	1.4	2.0	2.6	3.1	3.7	4.2	4.8	5.3	6.0	6.6	7.2	7.7	8.5	9.1	9.6	10.1	10.6	10.6	11.1	12.0	11.62
40	11.87	.75	1.2	1.75	2.3	2.9	3.5	4.0	4.6	5.1	5.7	6.3	6.8	7.4	8.1	8.7	9.3	9.6	10.2	10.7	11.0	12.0	11.57
41	12.00	.75	1.2	1.7	2.25	2.8	3.4	4.1	4.6	5.1	5.75	6.4	6.9	7.6	8.1	8.8	9.4	10.1	10.7	10.8	11.1	12.3	11.57
42	12.14	.9	1.4	1.9	2.4	3.1	3.75	4.1	4.8	5.3	6.0	6.6	7.25	7.9	8.5	8.9	9.7	10.25	10.5	10.8	11.25	12.5	11.60
43	12.14	.9	1.4	1.9	2.6	3.1	3.6	4.1	4.75	5.4	6.0	6.6	7.3	7.9	8.5	9.2	9.7	10.1	10.5	10.75	11.2	12.75	11.63
44	12.17	1.0	1.5	2.2	2.5	3.25	3.75	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.5	9.0	9.6	10.1	10.25	10.8	11.1	12.7	11.63
45	12.20	.9	1.3	2.1	2.5	3.25	3.8	4.3	4.9	5.6	6.2	6.6	7.3	8.1	8.6	9.1	9.75	10.1	10.7	10.9	11.2	12.1	11.63
46	11.37	.8	1.4	1.9	2.8	3.0	3.5	3.8	4.5	5.2	5.6	6.3	6.9	7.6	8.2	8.75	9.3	10.0	10.5	10.75	11.2	12.3	11.50
47	12.10	.9	1.4	1.9	2.4	3.1	3.6	4.1	4.7	5.3	5.8	6.4	7.1	7.6	8.3	9.1	9.75	10.2	10.6	10.9	11.0	12.25	11.59
48	12.19	1.1	1.7	2.75	2.8	3.3	3.7	4.3	4.9	5.5	6.1	6.75	7.1	8.0	8.6	9.1	9.75	10.0	10.5	11.0	11.4	12.4	11.64
49	12.15	.9	1.4	2.0	2.6	3.4	3.7	4.1	4.9	5.5	6.1	6.6	7.1	7.9	8.4	9.2	9.5	10.2	10.5	10.9	11.3	13.0	11.54
50	12.09	.9	1.4	2.0	2.5	3.1	3.7	4.25	4.75	5.4	5.9	6.6	7.25	7.7	8.4	9.0	9.6	10.0	10.6	10.5	10.9	12.25	11.43
51	12.22	1.2	1.7	2.1	2.6	3.3	3.8	4.3	4.9	5.4	6.0	6.6	7.25	7.7	8.4	9.0	9.6	10.0	10.6	10.5	10.9	12.25	12.22
52	11.43	.8	1.3	1.5	2.4	3.2	3.4	4.0	4.6	5.2	5.75	6.25	6.8	7.25	7.8	8.3	8.6	8.8	9.4	9.9	10.5	11.7	11.58
53	12.26	1.0	1.5	2.1	2.6	3.2	3.75	4.4	4.9	5.4	6.0	6.6	7.25	7.7	8.4	9.0	9.6	10.0	10.6	10.5	10.9	12.25	12.26
54	12.13	1.0	1.5	2.25	2.75	3.25	3.75	4.2	4.9	5.4	6.1	6.8	7.3	7.8	8.5	9.1	9.75	10.2	10.6	10.9	11.0	12.25	12.16
55	12.17	.9	1.5	2.25	2.7	3.25	3.8	4.3	5.0	5.5	6.1	6.6	7.25	7.7	8.4	9.1	9.75	10.0	10.5	11.0	11.4	12.4	12.03
56	12.05	1.0	1.6	1.9	2.5	3.1	3.6	4.2	4.75	5.3	5.75	6.3	6.8	7.4	8.0	8.6	9.1	9.75	10.2	10.5	11.0	12.4	11.76
57	11.76	.8	1.25	1.8	2.3	2.8	3.4	3.9	4.6	5.2	5.75	6.3	6.8	7.4	8.0	8.6	9.1	9.75	10.2	10.5	11.0	12.4	12.06
58	12.06	.8	1.4	2.0	2.5	3.1	3.7	4.25	4.8	5.4	6.0	6.6	7.4	7.9	8.5	9.1	9.75	10.2	10.5	11.0	11.3	13.0	12.11
59	12.11	.9	1.4	2.0	2.6	3.2	3.75	4.25	4.8	5.4	6.0	6.7	7.4	7.9	8.5	9.1	9.75	10.2	10.5	11.0	11.3	13.0	12.11
60	12.21	.9	1.4	1.9	2.6	3.2	3.75	4.25	4.9	5.4	6.1	6.75	7.25	7.7	8.4	9.0	9.6	10.0	10.6	10.5	10.9	12.25	12.21
61	14.09	.4	.75	1.25	1.75	2.25	2.75	3.4	3.9	4.4	4.9	5.5	6.1	6.7	7.2	7.75	8.3	8.5	9.3	9.8	10.3	11.5	11.59
62	14.19	.5	.9	1.3	1.8	2.3	2.9	3.4	3.9	4.5	5.1	5.6	6.2	6.75	7.25	7.8	8.6	8.8	9.4	9.9	10.5	11.7	11.58
63	14.25	.5	.9	1.3	1.8	2.3	2.8	3.4	3.9	4.4	4.9	5.6	6.2	6.7	7.1	7.5	8.25	8.9	9.2	9.5	10.3	11.3	11.61
64	14.25	.5	.9	1.3	1.8	2.3	2.8	3.4	3.9	4.4	4.9	5.6	6.2	6.7	7.1	7.5	8.25	8.9	9.2	9.5	10.0	11.2	11.55
65	13.75	.25	.9	1.3	1.8	2.3	2.8	3.4	3.9	4.4	4.9	5.6	6.2	6.7	7.2	7.6	8.1	8.9	9.2	9.5	10.0	11.3	11.53
66	13.75	.25	.9	1.4	1.7	2.4	2.9	3.4	3.9	4.4	4.9	5.6	6.2	6.7	7.3	7.6	8.3	8.9	9.4	9.6	10.4	11.1	11.49
67	14.06	.5	1.1	1.6	2.0	2.6	3.0	3.5	4.0	4.6	5.1	5.6	6.3	6.7	7.2	7.7	8.4	8.9	9.3	9.8	10.4	11.8	11.65
68	14.19	.4	.9	1.4	2.0	2.4	2.9	3.4	4.0	4.7	5.1	5.6	6.2	6.6	7.3	7.8	8.4	8.8	9.4	9.8	10.3	10.9	11.54
69	14.19	.4	.9	1.4	1.7	2.3	2.9	3.4	4.1	4.6	5.0	5.6	6.3	6.7	7.3	7.8	8.3	8.9	9.2	9.8	10.4	11.1	11.55
70	14.12	.4	1.0	1.5	1.9	2.4	3.2	3.6	4.3	4.6	5.1	5.7	6.3	6.9	7.3	7.9	8.5	9.1	9.5	10.0	10.5	10.9	11.59

- REMARKS:
- Springs 31 thru 60 were stress-relieved and heat-set (compress to 5 inches and heat at 400°F for 1 hour).
 - Springs 61 through 70 were stress-relieved and cold-set (compress to 11/16 inches three times).
 - Above load readings were taken before assembly into magazine.
 - Springs 31 thru 40 were stored free
 - Springs 41 thru 50 were stored in a loaded magazine (20 rounds).
 - Springs 51 thru 60 were stored in an empty magazine.
 - Springs 61 thru 70 were not subjected to this storage program. Springs of this set will be found in the temperature storage program.

REPORT
SA-TR11-2643

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 1 week

SPRING NO.		FIRE LENGTH	LOAD (LBS.) AT COMPRESSED HEIGHT OF -- INCHES																				FIRE HEIGHT	
			11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5		1.0
1	11.77	5	1.1	1.1	1.5	2.0	2.6	3.1	3.7	4.2	4.7	5.3	5.9	6.5	7.0	7.4	8.0	8.4	9.0	9.4	9.9	10.3	12.4	11.72
2	11.89	7	1.1	1.1	1.6	2.2	2.6	3.1	3.8	4.2	5.0	5.5	6.0	6.5	7.2	7.7	8.1	8.6	9.1	9.6	10.1	10.4	11.9	11.64
3	11.77	7	1.1	1.1	1.6	2.1	2.7	3.3	3.8	4.4	4.9	5.6	6.1	6.7	7.1	7.7	8.1	8.9	9.1	9.6	9.7	10.7	12.0	11.77
4	11.77	6	1.0	1.0	1.5	2.1	2.6	3.1	3.6	4.1	4.7	5.2	5.9	6.5	7.0	7.5	8.1	8.6	9.2	9.5	9.7	10.2	12.1	11.71
5	11.51	6	1.2	1.2	1.7	2.0	2.4	2.9	3.5	3.8	4.1	4.6	5.3	6.0	6.7	7.3	7.9	8.4	9.0	9.4	9.8	10.4	12.0	11.42
6	11.91	9	1.3	1.3	1.75	2.2	2.8	3.4	3.9	4.4	5.0	5.4	6.1	6.6	7.2	7.6	8.1	8.75	9.3	9.8	10.2	10.5	12.2	11.64
7	11.82	9	1.1	1.1	1.6	2.2	2.7	3.3	3.7	4.3	4.9	5.4	6.0	6.6	7.1	7.7	8.1	8.75	9.5	9.4	10.1	10.4	12.5	11.73
8	11.73	7	1.0	1.0	1.5	2.0	2.5	3.2	3.7	4.2	4.8	5.4	6.0	6.6	7.0	7.6	7.9	8.6	9.2	9.3	10.0	10.3	12.6	11.73
9	11.73	7	1.1	1.1	1.6	2.1	2.6	3.1	3.7	4.2	4.8	5.4	5.9	6.5	7.0	7.6	8.1	8.6	9.2	9.4	10.0	10.4	12.6	11.58
10	11.71	9	1.4	1.4	2.0	2.5	3.0	3.6	4.0	4.6	5.1	5.7	6.2	6.7	7.4	7.8	8.3	8.9	9.1	9.8	10.2	12.6	11.00	
11	11.51	9	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.3	8.9	9.4	10.4	10.90	
12	11.97	9	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.3	8.9	9.4	10.4	10.90	
13	11.97	9	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.3	8.9	9.4	10.4	10.90	
14	11.06	11	1.4	1.4	2.0	2.5	3.0	3.6	4.0	4.6	5.1	5.7	6.2	6.7	7.4	7.8	8.3	8.9	8.0	8.2	8.9	9.4	10.7	10.95
15	11.06	11	1.4	1.4	2.0	2.5	3.0	3.6	4.0	4.6	5.1	5.7	6.2	6.7	7.4	7.8	8.3	8.9	8.0	8.2	8.9	9.4	10.7	10.95
16	11.06	11	1.4	1.4	2.0	2.5	3.0	3.6	4.0	4.6	5.1	5.7	6.2	6.7	7.4	7.8	8.3	8.9	8.0	8.2	8.9	9.4	10.7	10.95
17	11.32	9	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
18	11.32	9	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
19	11.32	9	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
20	11.32	9	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
21	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
22	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
23	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
24	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
25	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
26	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
27	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
28	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
29	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00
30	11.61	24	1.5	1.5	2.2	2.7	3.2	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.3	8.9	9.4	8.0	8.4	8.9	9.4	11.0	11.00

REMARKS: 1. Stress-relieved only
2. a. Springs 1 - 10 Free
b. Springs 11 - 20 Loaded magazine
c. Springs 21 - 30 Empty magazine

REPORT
SA-TR11-2643

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 1 week

APPENDIX A

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																FREE LENGTH					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5		3.0	2.5	2.0	1.5	1.0
31	11.66	.6	1.6	1.7	2.2	2.7	3.4	4.0	4.5	4.9	5.6	6.0	6.7	7.2	7.8	8.2	8.7	9.2	9.7	10.0	10.2	12.5	11.56
32	11.63	.6	1.1	1.6	2.1	2.6	3.2	3.8	4.3	4.9	5.5	6.0	6.5	7.2	7.6	8.2	8.8	9.1	9.5	9.9	10.6	12.2	11.51
33	11.69	.6	1.0	1.5	2.0	2.6	3.2	3.7	4.3	4.8	5.4	6.0	6.5	7.0	7.4	8.1	8.5	9.2	9.5	10.0	10.0	12.1	11.58
34	11.59	.6	1.0	1.5	2.0	2.6	3.2	3.6	4.2	4.8	5.4	6.0	6.5	7.0	7.6	8.2	8.6	9.1	9.6	10.1	10.5	12.2	11.62
35	11.71	.6	1.0	1.6	2.0	2.6	3.2	3.7	4.3	4.9	5.3	5.9	6.6	7.2	7.7	8.2	8.6	9.1	9.7	9.9	10.7	12.3	11.59
36	11.69	.6	1.1	1.6	2.0	2.6	3.2	3.7	4.4	4.9	5.4	5.9	6.6	7.3	7.7	8.3	8.8	9.4	9.9	10.0	10.6	12.3	11.59
37	11.71	.6	1.2	1.6	2.2	2.7	3.4	3.8	4.4	4.9	5.4	6.0	6.5	7.3	7.6	8.3	8.6	9.2	9.6	10.2	10.6	12.4	11.51
38	11.63	.6	1.2	1.6	2.1	2.6	3.3	3.8	4.3	4.9	5.3	6.0	6.6	7.3	7.7	8.2	8.6	9.2	9.6	10.2	10.6	12.0	11.56
39	11.68	.6	1.2	1.6	2.1	2.6	3.3	3.8	4.4	4.9	5.4	5.9	6.6	7.2	7.6	8.2	8.6	9.3	9.6	10.1	10.6	12.0	11.53
40	11.64	.6	1.1	1.6	2.1	2.6	3.2	3.7	4.3	4.9	5.4	5.9	6.6	7.2	7.6	8.2	8.6	9.3	9.6	10.2	10.2	12.0	11.13
41	11.15	.00	.5	1.0	1.4	1.9	2.6	3.1	3.6	4.3	4.8	5.4	5.9	6.5	7.2	7.6	8.0	8.6	9.1	9.6	10.2	11.4	11.11
42	11.21	.00	.6	1.0	1.5	2.0	2.6	3.2	3.7	4.4	4.9	5.4	5.9	6.6	7.0	7.6	8.1	8.6	9.1	9.4	10.2	11.4	11.11
43	11.49	.4	.9	1.4	1.9	2.5	3.0	3.6	4.1	4.6	5.1	5.7	6.2	6.7	7.3	7.7	8.2	8.8	9.2	9.6	9.9	11.5	11.15
44	11.22	.4	.8	1.2	1.8	2.4	3.1	3.6	4.4	4.6	4.9	5.4	5.9	6.5	6.9	7.4	8.0	8.2	9.0	9.6	9.9	11.5	11.15
45	11.13	.00	.6	1.0	1.6	2.0	2.5	3.1	3.7	4.1	4.7	5.2	5.9	6.4	6.9	7.4	7.9	8.2	8.5	9.2	9.6	11.6	11.07
46	11.10	.00	.6	1.0	1.4	1.9	2.5	3.1	3.6	4.3	4.7	5.3	6.0	6.4	7.0	7.4	8.1	8.4	9.0	9.6	10.0	11.4	11.05
47	11.17	.6	1.1	1.6	2.1	2.6	3.1	3.7	4.3	4.7	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.6	9.1	9.4	9.7	11.3	11.09
48	11.16	.00	.4	.9	1.3	1.9	2.4	3.0	3.5	4.1	4.6	5.1	5.8	6.4	6.9	7.4	7.9	8.3	8.9	9.4	9.9	11.2	11.08
49	11.08	.00	.4	.9	1.2	1.9	2.5	3.0	3.6	4.1	4.6	5.3	5.9	6.3	6.8	7.4	7.9	8.4	8.7	9.1	9.9	11.6	11.03
50	11.10	.00	.4	.9	1.4	1.9	2.5	3.1	3.6	4.1	4.6	5.4	5.9	6.3	6.9	7.4	7.9	8.4	8.7	9.4	9.9	11.1	11.01
51	12.17	1.3	1.6	2.2	2.6	3.4	3.9	4.4	4.9	5.5	6.1	6.8	7.4	8.0	8.6	9.1	9.7	10.1	10.8	11.4	12.1	12.17	11.88
52	11.88	1.0	1.4	1.7	2.5	3.0	3.5	4.1	4.6	5.3	5.9	6.4	7.0	7.5	8.1	8.6	9.1	9.7	10.2	10.8	11.4	12.21	12.21
53	12.21	1.1	1.6	2.1	2.6	3.4	3.7	4.3	4.9	5.5	6.1	6.7	7.4	8.0	8.6	9.1	9.7	10.2	10.8	11.4	12.1	12.08	12.08
54	12.08	1.0	1.5	2.1	2.6	3.4	3.7	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.4	8.9	9.4	10.0	10.6	11.2	11.8	12.13	12.13
55	12.13	1.0	1.6	2.1	2.6	3.4	3.7	4.4	4.9	5.5	6.1	6.6	7.2	7.8	8.4	8.9	9.4	10.0	10.6	11.2	11.8	12.00	12.00
56	12.03	1.1	1.4	2.0	2.5	3.0	3.6	4.3	4.9	5.3	6.0	6.5	7.0	7.5	8.1	8.6	9.1	9.7	10.2	10.8	11.4	12.06	12.06
57	11.77	.8	1.4	1.9	2.3	2.9	3.4	4.0	4.6	5.1	5.8	6.4	6.9	7.5	8.0	8.6	9.1	9.7	10.2	10.8	11.4	12.09	12.09
58	12.06	.9	1.4	2.1	2.6	3.1	3.7	4.4	4.7	5.4	6.0	6.6	7.2	7.8	8.4	8.9	9.4	10.0	10.6	11.2	11.8	12.20	12.20
59	12.09	.9	1.5	2.1	2.6	3.1	3.7	4.4	4.9	5.6	6.1	6.7	7.3	7.9	8.4	8.9	9.4	10.0	10.6	11.2	11.8	12.20	12.20
60	12.20	.9	1.5	2.1	2.6	3.3	3.8	4.4	4.9	5.4	6.1	6.6	7.3	7.9	8.4	8.9	9.4	10.0	10.6	11.2	11.8	12.20	12.20

- REMARKS: 1. Stress-relieved and heat-set.
2. a. Springs 31 thru 40 - Free
b. Springs 41 thru 60 - Loaded magazine
c. Springs 51 thru 60 - Empty magazine

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 2 weeks

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																HIGHER THAN FREE LENGTH					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5		3.0	2.5	2.0	1.5	1.0
11	11.0	.1	.75	1.5	2.0	2.25	2.5	3.2	3.75	4.2	4.6	5.2	5.6	6.25	7.0	7.25	7.6	8.25	8.8	9.0	9.3	10.4	10.98
12	11.02	.1	.6	1.0	1.3	1.75	2.3	3.0	3.5	4.0	4.5	5.0	5.4	6.1	6.6	7.0	7.3	8.0	8.5	8.8	9.2	10.25	10.76
13	10.76	.00	.7	1.0	1.1	1.8	2.5	3.0	3.6	4.0	4.6	5.0	5.1	6.25	6.75	7.1	7.6	8.0	8.5	8.8	9.3	10.3	10.76
14	10.85	.00	.3	.8	1.2	2.0	2.5	3.0	3.6	4.0	4.6	5.1	5.5	6.1	6.6	7.1	7.5	8.0	8.6	9.0	9.7	10.0	10.68
15	10.84	.00	.3	.75	1.25	1.8	2.25	2.8	3.5	4.0	4.5	5.0	5.6	6.0	6.5	7.0	7.3	7.75	8.5	9.2	9.7	10.5	10.72
16	10.88	.00	.5	.8	1.3	1.6	2.1	2.6	3.25	3.8	4.3	4.8	5.5	6.0	6.3	6.8	7.3	7.75	8.25	8.8	9.25	10.5	10.84
17	10.78	.00	.3	.75	1.25	1.6	2.1	2.6	3.25	3.5	4.25	4.8	5.5	5.8	6.4	6.75	7.25	7.6	8.1	8.75	9.1	10.6	10.69
18	10.70	.00	.25	.75	1.1	1.5	2.0	2.6	3.1	3.6	4.25	4.75	5.4	5.75	6.1	6.75	7.25	7.6	8.1	8.75	9.0	10.75	10.66
19	10.95	.00	.3	.8	1.25	1.5	2.1	2.6	3.25	3.75	4.3	5.0	5.6	6.0	6.5	7.0	7.5	8.0	8.3	8.75	9.0	10.5	10.84
20	10.97	.00	.5	1.0	1.3	1.6	2.25	2.75	3.3	3.8	4.3	5.0	5.6	6.1	6.75	7.2	7.75	8.2	8.5	8.75	9.25	10.5	10.99
21	13.39	2.0	2.5	3.1	3.75	4.2	5.0	5.5	6.0	6.6	7.3	7.6	8.3	9.0	9.75	10.5	11.25	12.0	12.75	13.5	14.25	15.0	15.75
22	13.22	2.0	2.6	3.25	3.75	4.2	4.8	5.5	6.0	6.5	7.1	7.6	8.2	8.8	9.4	10.0	10.6	11.2	11.8	12.4	13.0	13.6	14.2
23	13.97	1.8	2.5	3.0	3.6	4.25	4.75	5.3	5.8	6.5	7.0	7.6	8.1	8.7	9.4	10.0	10.6	11.2	11.8	12.4	13.0	13.6	14.2
24	13.18	2.0	2.5	3.1	3.75	4.4	4.8	5.75	6.1	6.6	7.2	7.75	8.25	8.8	9.4	10.0	10.6	11.2	11.8	12.4	13.0	13.6	14.2
25	13.29	2.1	2.6	3.1	3.8	4.3	4.75	5.5	6.0	6.6	7.0	7.75	8.25	8.8	9.4	10.0	10.6	11.2	11.8	12.4	13.0	13.6	14.2
26	13.13	2.1	2.75	3.3	4.0	4.5	5.0	5.75	6.25	6.8	7.25	7.75	8.5	9.0	9.75	10.5	11.25	12.0	12.75	13.5	14.25	15.0	15.75
27	13.29	2.2	3.0	3.5	4.2	5.0	5.6	6.2	6.8	7.4	8.5	9.2	9.4	10.0	10.6	11.2	11.8	12.4	13.0	13.6	14.2	14.8	15.4
28	13.25	2.1	2.7	3.25	4.0	4.5	5.1	5.6	6.0	6.6	7.3	8.0	8.5	9.0	9.75	10.5	11.25	12.0	12.75	13.5	14.25	15.0	15.75
29	13.37	2.1	2.75	3.25	4.0	4.6	5.1	5.6	6.1	6.75	7.3	7.75	8.3	8.8	9.4	10.0	10.6	11.2	11.8	12.4	13.0	13.6	14.2
30	13.13	2.1	2.6	3.2	3.8	4.5	5.0	5.6	6.2	6.75	7.25	7.8	8.3	8.8	9.4	10.0	10.6	11.2	11.8	12.4	13.0	13.6	14.2
41	11.12	.1	.5	1.0	1.3	2.0	2.5	3.1	3.75	4.25	4.75	5.3	5.75	6.3	6.8	7.3	8.0	8.5	9.0	9.5	9.8	11.1	11.02
42	11.11	.1	.6	1.0	1.4	2.0	2.6	3.2	3.75	4.25	4.75	5.3	5.75	6.5	7.0	7.6	8.1	8.6	9.0	9.5	10.2	10.8	11.03
43	11.16	.4	.9	1.5	2.0	2.25	3.0	3.6	4.1	4.5	5.1	5.75	6.25	7.0	7.3	7.5	8.0	8.5	9.0	9.5	10.0	11.5	11.07
44	11.06	.2	.75	1.3	1.7	2.3	2.8	3.6	4.5	5.0	5.25	5.5	5.75	6.6	7.0	7.5	8.0	8.5	9.0	9.5	10.0	11.5	10.86
45	11.05	.1	.6	1.1	1.6	2.1	2.75	3.25	3.75	4.4	4.8	5.3	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.75	10.5	11.5	10.97
46	11.15	.5	.75	1.1	1.6	2.1	2.75	3.25	3.8	4.5	4.8	5.4	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.75	10.5	11.5	10.97
47	10.99	.00	.5	.75	1.3	1.75	2.25	3.0	3.5	4.1	4.6	5.2	5.6	6.1	6.75	7.1	7.75	8.25	8.75	9.25	9.75	11.0	10.96
48	11.09	.1	.6	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.6	5.2	5.6	6.1	6.75	7.1	7.75	8.25	8.75	9.25	9.75	11.0	10.96
49	10.98	.00	.3	.75	1.25	1.75	2.25	3.0	3.6	4.1	4.6	5.2	5.6	6.1	6.75	7.1	7.75	8.25	8.75	9.25	9.75	11.0	10.93
50	11.13	.1	.6	1.0	1.3	1.8	2.3	2.8	3.5	4.0	4.6	5.1	5.6	6.1	6.75	7.1	7.75	8.25	8.75	9.25	9.75	11.0	10.93
51	12.17	1.0	1.5	2.0	2.6	3.1	3.75	4.3	4.75	5.5	6.0	6.75	7.25	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
52	11.84	1.1	1.6	2.25	2.5	3.0	3.5	4.25	4.6	5.3	5.8	6.5	7.1	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
53	12.26	1.0	1.5	2.1	2.6	3.25	3.75	4.25	4.75	5.3	6.0	6.75	7.3	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
54	12.12	1.0	1.5	2.0	2.6	3.1	3.75	4.25	4.6	5.3	6.1	6.75	7.3	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
55	12.19	.8	1.5	2.0	2.5	3.2	3.75	4.3	4.8	5.3	6.0	6.6	7.25	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
56	12.05	1.0	1.6	2.1	2.6	3.1	3.6	4.1	4.75	5.25	5.8	6.5	7.1	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
57	11.68	.6	1.25	1.75	2.25	2.8	3.4	4.0	4.6	5.1	5.6	6.3	7.0	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
58	12.09	1.1	1.5	2.0	2.6	3.1	3.75	4.25	4.75	5.25	5.8	6.6	7.25	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
59	12.13	1.1	1.6	2.1	2.6	3.3	4.0	4.5	4.8	5.3	5.8	6.6	7.3	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75
60	12.23	1.0	1.5	2.0	2.6	3.1	3.8	4.25	4.75	5.5	6.0	6.6	7.25	7.75	8.5	9.0	9.75	10.25	10.75	11.25	11.75	12.25	12.75

- REMARKS: 1. Springs 11 thru 30 stress-relieved only.
 2. Springs 41 thru 60 stress-relieved and heat-set.
 3. a. Springs 11 thru 20 and 41 thru 50 - Loaded magazine.
 b. Spring 21 thru 30 and 51 thru 60 - Empty magazine.

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 4 weeks

SPRINKLER NO.	PISTON LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																E INCHES					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5		3.0	2.5	2.0	1.5	1.0
11	10.80	00	.3	.6	1.1	1.6	2.1	2.6	3.2	3.7	4.2	4.7	5.2	5.9	6.3	6.9	7.4	7.8	8.2	8.6	9.2	10.00	10.73
12	10.67	00	.3	.75	1.25	1.5	2.2	3.0	3.5	4.0	4.5	4.75	5.4	6.0	6.5	7.0	7.5	8.0	8.3	8.75	9.5	10.50	10.62
13	10.66	00	.25	.6	1.1	1.6	2.0	2.6	3.1	3.75	4.1	4.6	5.3	5.8	6.25	6.75	7.3	7.75	8.25	8.6	9.1	10.25	10.62
14	10.60	00	.4	.75	1.25	1.6	2.25	2.75	3.5	4.0	4.5	5.1	5.75	6.1	6.6	7.1	7.6	8.1	8.5	9.25	10.0	10.50	10.58
15	10.63	00	.25	.5	1.0	1.3	1.8	2.6	3.1	3.6	4.1	4.6	5.3	5.8	6.25	6.6	7.25	7.75	8.1	8.6	9.1	10.30	10.62
16	10.79	00	.3	.6	1.1	1.6	2.0	2.6	3.1	3.75	4.25	4.8	5.5	6.0	6.4	6.8	7.25	7.75	8.25	8.8	9.25	10.75	10.73
17	10.62	00	.3	.6	1.0	1.3	1.8	2.5	3.0	3.6	4.1	4.6	5.25	5.75	6.1	6.6	7.1	7.5	8.1	8.6	9.0	10.50	10.60
18	10.57	00	.25	.6	1.0	1.4	1.8	2.5	3.1	3.6	4.2	4.6	5.25	5.8	6.0	6.5	7.0	7.5	8.0	8.6	9.1	10.60	10.60
19	10.75	00	.25	.75	1.1	1.5	2.0	2.5	3.1	3.75	4.3	4.8	5.5	5.8	6.25	6.6	7.25	7.75	8.25	8.75	9.1	10.30	10.75
20	10.78	00	.25	.6	1.0	1.5	2.1	2.6	3.25	3.8	4.4	4.75	5.4	5.75	6.25	6.75	7.25	7.5	8.25	8.75	9.25	10.50	10.50
21	13.06	1.5	2.1	2.75	3.25	4.0	4.5	5.0	5.6	6.1	6.75	7.5	7.75									13.09	
22	13.04	1.6	2.2	2.6	3.3	4.0	4.5	5.1	5.6	6.2	6.75	7.5	8.0									13.06	
23	12.82	1.5	2.0	2.6	3.25	3.8	4.3	5.0	5.5	6.1	6.5	7.25	7.75									13.06	
24	13.06	1.6	2.25	2.75	3.3	4.0	4.5	5.1	5.6	6.25	6.75	7.3	7.75									12.82	
25	12.65	1.25	1.75	2.3	2.8	3.6	4.25	4.75	5.25	5.75	6.3	6.8	7.50									13.08	
26	12.93	1.75	2.5	3.0	3.75	4.5	4.8	5.75	6.6	7.2	8.1	8.75	9.1									12.97	
27	13.11	1.6	2.3	3.0	3.5	4.0	4.6	5.25	5.75	6.25	6.75	7.3	7.8									13.08	
28	12.97	1.6	2.1	2.75	3.3	4.0	4.6	5.1	5.6	6.25	7.0	7.5	7.8									12.97	
29	13.27	1.6	2.1	2.6	3.25	4.0	4.5	5.1	5.6	6.3	6.8	7.3	7.8									13.20	
30	12.84	1.6	2.3	2.8	3.5	4.1	4.6	5.25	5.75	6.3	6.8	7.5	8.0									12.36	
41	11.11	.1	.4	.9	1.3	1.7	2.4	2.9	3.5	4.0	4.6	5.1	5.6	6.1	6.8	7.1	7.7	8.2	8.7	9.4	9.6	11.0	10.97
42	11.29	.2	.4	.7	1.4	1.9	2.4	3.0	3.5	4.1	4.6	5.1	5.6	6.2	6.6	7.4	7.9	8.3	8.7	9.2	9.7	11.0	10.98
43	10.92	00	.5	.9	1.4	1.9	2.4	3.0	3.5	4.1	4.6	5.1	5.6	6.2	6.6	7.4	7.9	8.3	8.7	9.2	9.7	11.0	10.98
44	10.84	00	.4	.8	1.3	1.9	2.4	3.1	3.6	4.4	5.1	5.6	5.9	6.7	7.5	8.4	8.9	9.5	9.9	10.9	10.7	11.50	10.84
45	11.07	.1	.4	.6	1.1	1.6	2.2	2.7	3.4	3.9	4.4	4.9	5.4	6.0	6.5	7.1	7.6	8.0	8.5	9.0	9.9	11.2	11.50
46	10.98	00	.4	.6	1.1	1.6	2.1	2.6	3.4	3.8	4.4	4.9	5.4	6.0	6.4	6.9	7.4	8.0	8.5	9.0	9.6	11.50	10.55
47	10.97	00	.2	.4	.9	1.4	2.0	2.4	3.1	3.6	4.1	4.7	5.3	5.7	6.3	6.9	7.4	7.8	8.4	8.9	9.4	11.0	10.88
48	10.90	00	.3	.5	1.0	1.4	1.9	2.6	3.1	3.7	4.3	4.7	5.3	5.7	6.3	6.9	7.4	7.9	8.4	8.9	9.4	11.0	10.85
49	11.10	.1	.4	.6	1.1	1.6	2.2	2.7	3.4	3.9	4.4	4.9	5.4	5.8	6.3	6.9	7.4	7.9	8.4	8.9	9.4	10.6	10.86
50	10.92	00	.2	.6	1.0	1.6	2.2	2.7	3.4	3.9	4.4	4.9	5.4	6.0	6.6	7.0	7.4	7.9	8.4	8.9	9.7	11.5	10.86
51	12.14	.9	1.1	1.7	2.4	3.0	3.6	4.1	4.7	5.3	5.9	6.4	7.0	5.9	6.5	7.0	7.6	8.0	8.4	8.9	9.6	10.9	10.85
52	11.37	.8	1.4	2.0	2.1	2.9	3.4	3.9	4.4	5.1	5.6	6.1	6.9									12.11	
53	12.23	.3	1.6	2.0	2.5	3.1	3.6	4.2	4.8	5.4	5.9	6.5	7.1	6.9	7.5	8.0	8.4	8.9	9.4	9.9	10.9	11.54	12.22
54	12.05	.6	1.4	1.9	2.6	3.4	3.7	4.1	4.6	5.1	5.9	6.6	7.0	7.0	7.6	8.0	8.4	8.9	9.4	9.9	10.9	11.54	12.22
55	12.16	.7	1.4	2.0	2.6	3.1	3.6	4.1	4.6	5.4	5.9	6.4	7.0	7.0	7.6	8.0	8.4	8.9	9.4	9.9	10.9	11.54	12.22
56	11.73	.7	1.4	1.7	2.4	2.9	3.5	3.9	4.5	5.1	5.6	6.2	6.9	6.9	7.5	8.0	8.4	8.9	9.4	9.9	10.9	11.54	12.22
57	11.66	.5	1.0	1.5	2.0	2.6	3.2	3.7	4.3	4.9	5.4	6.1	6.7	6.7	7.3	7.8	8.4	8.9	9.4	9.9	10.9	11.54	12.22
58	12.10	.6	1.1	1.7	2.4	2.9	3.5	4.1	4.6	5.2	5.8	6.5	7.1	7.1	7.7	8.2	8.7	9.2	9.7	10.2	10.7	11.2	11.7
59	12.11	.6	1.2	1.8	2.4	3.0	3.6	4.1	4.6	5.2	5.8	6.5	7.1	7.1	7.7	8.2	8.7	9.2	9.7	10.2	10.7	11.2	11.7
60	12.22	.6	1.1	1.9	2.4	2.9	3.6	4.1	4.7	5.2	5.8	6.5	7.1	7.1	7.7	8.2	8.7	9.2	9.7	10.2	10.7	11.2	11.7

REMARKS: 1. See Page 35

REPORT
SA-TR11-2643
RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 8 weeks

SPRING NO.	RIFLE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																			RIFLE LENGTH		
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0		1.5	1.0
11	10.73	00	.25	.6	1.1	1.5	2.0	2.6	3.1	3.7	4.3	4.9	5.3	5.8	6.6	6.9	7.4	7.9	8.4	8.9	9.4	10.2	10.67
12	10.59	00	.3	.75	1.2	1.6	2.25	2.75	3.3	3.9	4.25	5.0	5.3	5.8	6.5	6.75	7.25	7.8	8.3	9.1	9.75	10.5	10.54
13	10.57	00	.25	.5	1.0	1.3	1.8	2.3	3.0	3.4	4.0	4.6	5.1	5.5	6.2	6.6	7.1	7.6	8.1	8.6	9.25	10.3	10.54
14	10.57	00	.2	.5	1.0	1.25	1.75	2.3	3.0	3.5	4.0	4.6	5.1	5.6	6.2	6.6	7.0	7.5	8.0	8.6	9.2	10.25	10.52
15	10.62	00	.25	.6	1.0	1.5	2.0	2.6	3.3	4.0	4.5	5.2	5.4	6.1	6.6	7.2	7.5	8.1	8.5	9.0	9.4	10.2	10.56
16	10.71	00	.25	.4	1.0	1.5	2.0	2.5	3.1	3.6	4.25	4.75	5.3	5.75	6.2	6.75	7.2	7.6	8.1	8.6	9.2	10.5	10.66
17	10.61	00	.10	.5	.8	1.5	1.8	2.3	2.8	3.4	4.0	4.5	5.1	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.3	10.52
18	10.55	00	.10	.5	1.0	1.3	1.75	2.3	2.8	3.4	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.5	10.51
19	10.59	00	.25	.75	1.1	1.4	2.0	2.5	3.0	3.5	4.1	4.6	5.25	5.6	6.2	6.6	7.1	7.6	8.2	8.5	9.25	10.25	10.58
20	10.75	00	.4	1.0	1.5	1.75	2.3	2.6	3.25	4.0	4.5	5.1	5.5	6.1	6.6	7.0	7.5	7.9	8.4	9.0	9.25	10.2	10.69
21	13.04	1.5	2.1	2.8	3.3	4.0	4.5	5.0	5.6	6.0	6.5	7.25	7.75										13.04
22	12.96	1.6	2.25	2.6	3.25	4.0	4.5	5.25	5.6	6.3	6.8	7.3	8.0										12.94
23	12.73	1.5	2.0	2.6	3.25	3.8	4.3	5.0	5.5	6.25	6.6	7.2	7.8										12.71
24	13.00	1.6	2.3	2.8	3.5	4.0	4.5	5.1	5.6	6.3	6.8	7.3	7.8										12.98
25	12.62	1.1	1.6	2.3	2.8	3.5	4.0	4.75	5.3	5.8	6.4	7.0	7.6										12.60
26	12.85	1.6	2.25	3.0	3.5	4.2	4.75	5.25	5.75	6.3	6.8	7.5	8.1										12.83
27	13.05	1.6	2.3	3.0	3.6	4.0	4.6	5.25	5.8	6.3	7.0	7.5	7.8										13.03
28	12.87	1.6	2.1	2.8	3.5	4.0	4.5	5.25	5.6	6.3	7.0	7.5	7.8										12.87
29	13.08	1.6	2.2	2.8	3.5	4.1	4.6	5.1	5.6	6.3	7.0	7.5	8.0										13.06
30	12.82	1.6	2.2	2.8	3.5	4.1	4.6	5.1	5.6	6.3	7.0	7.5	8.0										12.80
31	10.96	00	.5	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.2	9.6	11.00	10.90
32	10.98	00	.5	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.2	9.6	11.00	10.90
33	10.96	00	.5	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.2	9.6	11.00	10.90
34	10.78	00	.5	1.0	1.4	1.8	2.4	2.5	3.25	3.8	4.25	4.8	5.3	5.8	6.3	6.8	7.3	8.0	8.5	9.0	9.5	10.75	10.76
35	10.77	00	.5	.75	1.25	1.75	2.25	2.75	3.3	4.0	4.5	5.0	5.6	6.0	6.6	7.0	7.5	8.0	8.4	9.0	9.6	11.00	10.75
36	10.93	00	.6	1.0	1.4	1.75	2.3	3.0	3.5	4.0	4.5	5.0	5.6	6.1	6.5	7.1	7.5	8.0	8.5	9.2	9.75	11.00	10.86
37	10.94	00	.5	.75	1.25	1.75	2.25	2.75	3.4	3.8	4.4	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.6	9.0	9.6	11.00	10.82
38	10.83	00	.3	.75	1.2	1.6	2.2	2.6	3.25	3.75	4.3	5.0	5.3	6.0	6.5	7.0	7.4	8.0	8.5	9.0	9.5	11.00	10.81
39	10.88	00	.4	.75	1.2	1.6	2.25	2.6	3.25	3.75	4.3	4.8	5.3	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.75	10.85
40	10.84	00	.3	.75	1.1	1.6	2.1	2.6	3.25	3.8	4.3	4.75	5.4	5.8	6.5	7.0	7.5	8.0	8.5	8.8	9.5	11.25	10.82
41	10.85	00	.3	.75	1.2	1.6	2.1	2.75	3.3	3.8	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.0	8.6	9.0	9.6	10.8	10.80
42	12.13	0.9	1.5	2.0	2.25	3.1	3.75	4.2	4.8	5.3	6.0	6.4	7.0										12.12
43	11.86	0.8	1.5	1.8	2.1	3.0	3.5	4.0	4.4	5.1	5.6	6.0	6.9										11.87
44	12.10	0.8	1.5	2.0	2.5	3.25	3.7	4.25	4.75	5.4	5.8	6.4	7.0										12.22
45	12.08	0.8	1.3	2.0	2.5	3.0	3.8	4.25	4.6	5.3	5.8	6.4	7.0										12.07
46	12.14	0.8	1.5	2.0	2.75	3.0	3.8	4.25	4.6	5.3	5.8	6.4	7.0										12.16
47	12.02	.75	1.5	2.0	2.5	3.0	3.75	4.0	4.6	5.3	5.8	6.25	6.9										12.04
48	11.66	0.75	1.1	1.6	2.0	2.75	3.25	4.0	4.3	5.0	5.5	6.1	6.7										11.67
49	12.10	0.6	1.1	1.75	2.5	3.0	3.5	4.2	4.5	5.3	5.8	6.3	7.0										12.09
50	12.09	0.6	1.2	2.0	2.5	3.0	3.6	4.2	4.75	5.25	5.9	6.5	7.0										12.10
51	12.23	0.6	1.1	2.0	2.5	3.0	3.75	4.1	4.8	5.25	5.8	6.5	7.0										12.22

REMARKS: 1. See Page 35

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 12 weeks

ITEM NO.	ITEM LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																				ITEM LENGTH
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	
11	10.67	00	.1	.5	.9	1.4	2.0	2.4	3.0	3.6	4.1	4.75	5.3	5.75	6.25	6.6	7.0	7.75	8.2	8.6	9.1	10.4
12	10.48	00	0	.5	1.0	1.5	1.8	2.25	2.75	3.3	4.0	4.6	5.2	5.6	6.1	6.6	7.0	7.4	8.1	8.5	9.2	10.5
13	10.56	00	.1	.4	.9	1.3	1.75	2.1	2.75	3.3	4.0	4.6	5.1	5.6	6.0	6.6	7.0	7.5	8.0	8.5	9.0	10.6
14	10.48	00	0	.5	.75	1.25	1.6	2.25	2.75	3.3	3.9	4.4	5.1	5.5	6.0	6.5	7.0	7.5	8.0	8.4	8.9	10.5
15	10.50	00	0	.5	.8	1.25	1.6	2.25	2.8	3.3	4.0	4.5	5.2	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.1	10.3
16	10.65	00	.25	.75	1.0	1.3	1.75	2.3	3.0	3.5	4.2	4.75	5.3	5.6	6.1	6.6	7.2	7.6	8.1	8.5	9.0	10.5
17	10.46	00	0	.5	.7	1.2	1.75	2.3	2.75	3.2	3.9	4.5	5.1	5.5	6.0	6.4	7.0	7.5	8.0	8.4	8.9	10.3
18	10.46	00	0	.4	1.0	1.4	1.9	2.3	2.75	3.25	4.0	4.5	5.1	5.4	5.9	6.5	7.0	7.5	8.0	8.3	8.75	10.42
19	10.63	00	.25	1.0	1.25	1.6	2.0	2.5	3.1	3.6	4.1	4.6	5.3	5.6	6.2	6.6	7.1	7.6	8.1	8.5	9.1	10.25
20	10.69	00	.25	.75	1.2	1.75	2.0	2.5	3.0	3.6	4.25	4.75	5.3	5.75	6.3	6.75	7.2	7.6	8.25	8.6	9.25	10.25
21	12.99	1.7	2.3	2.75	3.5	4.1	4.5	5.0	5.6	6.1	6.6	7.1	7.5									12.66
22	12.95	1.75	2.3	3.00	3.4	4.0	4.6	5.1	5.75	6.2	6.75	7.5	7.75									12.93
23	12.66	1.5	2.1	2.75	3.3	4.0	4.4	5.0	5.5	6.1	6.6	7.3	7.75									12.68
24	12.93	1.75	2.25	2.8	3.3	4.0	4.5	5.1	5.75	6.25	6.75	7.3	7.75									12.94
25	12.50	1.75	1.9	2.5	3.0	3.75	4.25	4.75	5.4	5.8	6.4	6.75	7.4									12.49
26	12.76	1.6	2.3	2.75	3.3	3.9	4.5	5.1	5.8	6.25	7.0	7.5	8.0									12.72
27	12.98	1.75	2.3	3.0	3.5	4.0	4.6	5.25	5.75	6.2	7.0	7.5	7.9									12.98
28	12.82	1.6	2.2	2.9	3.3	3.9	4.5	5.0	5.75	6.25	6.8	7.4	7.8									12.83
29	13.02	1.6	2.1	2.6	3.3	4.0	4.6	5.2	5.75	6.4	6.75	7.4	7.9									12.98
30	12.69	1.6	2.1	2.75	3.4	4.0	4.5	5.25	5.75	6.3	7.0	7.5	8.0									12.68
41	10.88	00	.3	.75	1.1	1.6	2.1	2.75	3.3		4.25	5.0	5.5	5.9	6.5	7.1	7.5	8.1	8.5	9.1	9.5	10.8
42	10.89	00	.3	.75	1.25	1.75	2.2	2.6	3.25		4.3	5.0	5.6	6.0	6.6	7.2	7.5	8.25	8.6	9.1	9.6	11.0
43	10.78	00	.3	.8	1.3	2.0	2.25	2.6			4.3	4.8	5.3	5.75	6.3	7.0	7.2	7.8	8.5	9.0	9.5	11.0
44	10.92	00	.5	1.0	1.7	2.1	2.5	3.0	3.4		4.5	5.0	5.5	6.0	6.6	7.0	7.4	7.75	8.5	9.0	9.6	11.0
45	10.82	00	.3	1.0	1.5	2.1	2.5	3.0	3.3		4.5	5.0	5.4	6.0	6.5	7.0	7.4	7.8	8.4	8.8	9.4	11.0
46	10.81	00	.25	.8	1.1	1.6	2.1	2.6	3.2		4.25	4.8	5.4	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	11.0
47	10.81	00	.25	.75	1.1	1.75	2.25	2.8	3.2		4.2	4.75	5.3	5.75	6.3	6.75	7.25	7.75	8.25	9.0	9.2	10.75
48	10.92	00	.25	.8	1.25	2.0	2.2	2.6	3.1		4.25	4.8	5.4	6.0	6.5	7.0	7.5	8.0	8.4	8.8	9.3	10.5
49	10.80	00	.25	.75	1.0	1.5	2.0	2.5	3.1		4.2	4.9	5.5	6.0	6.4	6.9	7.4	8.0	8.4	8.8	9.25	10.6
50	10.76	00	.3	.6	1.0	1.6	2.0	2.6	3.2		4.2	4.9	5.5	6.0	6.4	6.9	7.4	8.0	8.4	8.8	9.25	10.5
51	12.12	.8	1.5	2.0	2.5	3.0	3.6	4.2	4.75		6.0	6.6	7.0	6.0	6.4	6.9	7.4	8.0	8.25	8.9	9.3	10.5
52	11.85	.75	1.4	1.8	2.3	2.75	3.3	4.0	4.5		5.75	6.3	6.75									12.13
53	12.18	.8	1.4	2.0	2.5	3.1	3.6	4.2	4.8		6.1	6.75	7.1	5.4	5.75							11.86
54	12.06	.9	1.4	2.0	2.6	3.25	3.75	4.3	4.8		6.0	6.6	7.1	5.5	6.0							12.06
55	12.17	1.0	1.5	2.0	2.6	3.25	3.7	4.3	4.8		6.1	6.6	7.1	5.5	6.1							12.16
56	12.01	1.0	1.6	2.2	2.75	3.25	3.75	4.3	5.0		6.0	6.4	7.0	5.6	6.0							12.05
57	11.66	.75	1.3	1.8	2.25	3.0	3.5	4.0	4.6		5.6	6.3	6.75									11.66
58	12.07	1.0	1.6	2.25	2.75	3.5	4.0	4.3	5.0		5.6	6.3	6.75									12.08
59	12.10	.8	1.25	1.9	2.4	3.0	3.6	4.1	4.75		5.9	6.5	7.0	5.3	5.9							12.10
60	12.22	.8	1.5	2.0	2.5	3.0	3.6	4.2	4.75		6.0	6.5	7.0	5.3	6.0							12.21

REMARKS: 1. Springs 11 thru 30 stress-relieved only.
2. Springs 41 thru 60 stress-relieved and heat-set.
3. Springs 11 thru 20 and 41 thru 50 - Loaded magazine.
4. Springs 21 thru 30 and 51 thru 60 - Empty magazine.

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 16 weeks

SPRING NO.	RIFLE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF - INCHES																RIFLE LENGTH					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5		3.0	2.5	2.0	1.5	1.0
11	10.35	00	00	00	.4	.75	1.25	1.75	2.25	2.8	3.3	4.0	4.5	5.0	5.5	6.0	6.3	7.0	7.5	8.0	8.3	8.8	10.0
12	10.49	00	00	.4	.8	.8	1.25	1.75	2.25	2.75	3.3	4.0	4.5	5.0	5.5	6.0	6.4	7.0	7.5	8.0	8.4	9.2	10.4
13	10.67	00	.25	.6	1.1	1.50	2.00	2.5	3.0	3.5	3.5	4.2	4.75	5.25	5.75	6.2	6.6	7.0	7.5	8.0	8.4	9.0	10.25
14	10.45	00	00	.3	.75	1.2	1.75	2.25	2.75	3.2	3.2	3.75	4.3	4.8	5.3	5.8	6.25	6.8	7.4	8.0	8.3	8.9	10.5
15	10.56	00	.10	.5	1.0	1.25	1.75	2.3	2.75	3.4	3.4	4.0	4.6	5.1	5.5	6.0	6.5	7.0	7.4	8.0	8.3	9.0	10.51
16	10.74	00	.30	.75	1.1	1.55	2.00	2.5	3.0	3.5	3.5	4.1	4.75	5.3	5.75	6.2	6.6	7.0	7.5	8.2	8.6	9.25	10.63
17	10.56	00	.1	.6	.8	1.25	1.8	2.25	2.8	3.3	3.3	4.0	4.5	4.9	5.3	5.8	6.3	6.7	7.0	7.5	8.0	8.5	9.2
18	10.39	00	00	.3	.75	1.25	1.6	2.1	2.6	3.25	3.25	3.8	4.4	4.8	5.3	5.8	6.25	6.75	7.3	7.75	8.3	8.8	10.25
19	10.56	00	00	.5	.8	1.25	1.75	2.3	2.75	3.3	3.3	4.0	4.5	5.0	5.5	6.0	6.4	7.0	7.3	7.8	8.25	9.0	10.5
20	10.49	00	.2	.6	1.0	1.4	1.8	2.3	2.8	3.5	3.5	4.0	4.5	5.1	5.5	6.1	6.6	7.1	7.5	8.0	8.5	9.0	10.2
21	12.42	1.1	1.6	2.25	3.0	3.5	4.0	4.6	5.1	5.75	6.25	6.75	7.25	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.75	12.20
22	12.92	1.6	2.0	2.75	3.5	4.25	5.0	5.5	6.25	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5
23	12.82	1.4	2.0	2.6	3.25	3.75	4.4	5.0	5.5	6.0	6.5	7.1	7.6	8.1	8.6	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6
24	12.80	1.4	2.0	2.75	3.25	3.75	4.3	5.0	5.5	6.1	6.75	7.25	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8
25	12.26	1.0	1.3	1.8	2.25	2.6	3.1	3.75	4.3	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	10.8	11.4	12.0	12.6
26	12.70	1.5	2.2	3.0	3.4	4.0	4.25	5.0	5.5	6.25	6.75	7.25	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.75	12.25	12.75
27	12.96	1.75	2.25	3.0	3.5	4.1	4.5	5.2	5.6	6.25	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8
28	12.99	1.5	2.0	2.75	3.3	3.8	4.4	5.0	5.6	6.25	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8
29	12.99	1.75	2.25	3.0	3.6	4.0	4.5	5.25	5.6	6.0	6.25	6.75	7.3	7.9	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5
30	12.65	1.6	2.2	2.8	3.3	3.9	4.4	5.1	5.6	6.25	6.75	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8
41	10.86	00	00	.2	.6	1.1	1.6	2.1	2.6	3.2	3.2	3.8	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3
42	10.96	00	.3	.75	1.25	1.75	2.25	2.75	3.3	3.5	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5
43	10.71	00	00	.25	.75	1.25	1.75	2.25	2.75	3.3	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3
44	10.87	00	.3	1.0	1.2	1.6	2.1	2.6	3.2	3.2	3.8	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	10.3
45	10.84	00	.4	.8	1.25	1.6	2.3	2.8	3.3	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	10.3
46	10.74	00	.25	.6	1.0	1.5	2.0	2.5	3.0	3.0	3.6	4.1	4.8	5.25	5.8	6.3	6.8	7.3	7.8	8.25	8.75	9.3	10.3
47	10.74	00	.2	.8	1.0	1.4	1.75	2.4	3.0	3.0	3.6	4.1	4.8	5.25	5.8	6.3	6.8	7.3	7.8	8.25	8.75	9.3	10.3
48	10.81	00	.2	.6	1.0	1.4	1.8	2.5	3.0	3.5	3.5	4.0	4.75	5.25	5.75	6.3	6.8	7.4	7.8	8.3	8.9	9.4	10.25
49	10.99	00	.6	1.1	1.3	1.7	2.1	2.75	3.4	3.4	3.9	4.5	5.0	5.6	6.2	6.8	7.4	8.0	8.4	9.0	9.25	9.8	10.50
50	10.70	00	.2	.6	1.0	1.5	2.0	2.5	3.0	3.6	3.6	4.25	4.75	5.3	5.8	6.4	7.0	7.5	8.0	8.5	9.0	9.5	10.25
51	12.05	.8	1.3	2.0	2.5	3.0	3.6	4.1	4.75	5.25	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	12.06
52	11.84	.6	1.25	2.0	2.5	3.0	3.5	3.9	4.5	5.2	5.6	6.2	6.75	7.25	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.86
53	12.20	1.0	1.5	2.1	2.6	3.2	3.75	4.3	4.8	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.06
54	12.06	.8	1.3	2.0	2.6	3.1	3.6	4.2	4.75	5.3	5.8	6.4	6.9	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.06
55	12.14	1.0	1.5	2.1	2.6	3.2	3.75	4.3	4.75	5.4	6.0	6.6	7.25	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.75	12.06
56	12.00	.6	1.1	1.8	2.4	3.0	3.5	4.0	4.6	5.2	5.75	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	12.01
57	11.66	.6	1.1	1.6	2.25	2.75	3.3	4.0	4.5	5.0	5.5	6.1	6.75	7.2	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.68
58	12.09	.75	1.5	2.0	2.5	3.1	3.6	4.2	4.75	5.3	5.8	6.4	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.09
59	12.07	.75	1.4	2.0	2.5	3.25	3.6	4.2	4.8	5.2	6.0	6.6	7.25	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.75	12.09
60	12.20	1.0	1.5	2.1	2.6	3.1	3.75	4.25	4.8	5.3	6.1	6.75	7.25	7.75	8.25	8.75	9.25	9.75	10.25	10.75	11.25	11.75	12.20

REMARKS: 1. See Page 35

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 24 weeks

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF -- INCHES																FREE LENGTH					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5		3.0	2.5	2.0	1.5	1.0
11	10.58	0	0	.5	.8	1.1	1.6	2.1	2.75	3.3	3.8	4.3	4.8	5.5	5.8	6.5	6.8	7.4	7.8	8.5	8.75	10.0	10.53
12	10.45	0	0	.4	.6	1.0	1.5	2.0	2.5	3.0	3.75	4.1	4.75	5.25	5.6	6.1	6.5	7.0	7.5	8.2	8.6	9.75	10.38
13	10.42	0	0	.5	1.0	1.2	1.6	2.0	2.6	3.1	3.75	4.3	4.8	5.5	5.75	6.3	6.8	7.3	7.75	8.2	8.6	10.0	10.42
14	10.39	0	0	.3	.6	1.1	1.5	2.1	2.6	3.1	3.6	4.25	4.75	5.3	5.8	6.25	6.6	7.3	7.75	8.0	8.75	10.2	10.40
15	10.42	0	0	.25	.6	1.25	1.6	2.2	2.75	3.25	3.8	4.3	4.8	5.5	5.8	6.3	6.8	7.3	7.8	8.2	8.8	10.0	10.43
16	10.62	0	.1	.5	.8	1.3	1.75	2.2	2.8	3.5	4.0	4.3	5.1	5.6	6.1	6.6	7.0	7.5	7.8	8.3	8.9	10.25	10.56
17	10.39	0	0	.5	.8	1.1	1.6	2.1	2.7	3.1	3.6	4.2	4.75	5.25	5.75	6.1	6.8	7.3	7.75	8.1	9.0	10.25	10.40
18	10.33	0	0	.3	.6	1.1	1.6	2.1	2.6	3.1	3.75	4.3	4.8	5.3	5.8	6.1	6.75	7.2	7.75	8.2	8.75	10.1	10.35
19	10.84	0	.25	.75	1.1	1.4	1.6	2.0	2.5	3.1	3.75	4.3	4.75	5.2	5.75	6.1	6.6	7.2	7.6	8.6	8.5	10.0	10.61
20	10.56	0	.1	.5	1.0	1.4	1.8	2.3	2.8	3.3	4.0	4.4	5.0	5.5	6.0	6.3	6.8	7.4	7.8	8.5	9.0	10.25	10.54
21	12.42	1.1	1.6	2.25	2.8	3.5	4.0	4.5	5.0	5.5	6.1	6.75	7.1	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.42
22	12.87	1.5	2.0	2.5	3.2	3.75	4.3	5.0	5.5	6.0	6.5	7.0	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	10.5	12.87
23	12.59	1.3	1.9	2.4	3.0	3.6	4.2	4.8	5.25	5.6	6.25	6.8	7.1	7.75	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.59
24	12.76	1.3	2.0	2.6	3.2	3.75	4.3	5.0	5.4	5.6	6.4	7.1	7.75	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	10.5	12.76
25	12.76	.6	1.0	1.5	2.0	2.5	3.2	3.6	4.25	5.0	5.5	6.0	6.5	7.1	7.75	8.0	8.5	9.0	9.5	10.0	10.5	10.5	12.76
26	12.68	1.5	2.1	2.75	3.2	4.0	4.4	4.8	5.0	6.0	6.5	7.1	7.75	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	10.5	12.68
27	12.92	1.5	2.2	2.75	3.4	4.0	4.25	5.0	5.5	6.2	6.75	7.25	7.75	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	10.5	12.92
28	12.74	1.4	2.0	2.5	3.0	3.75	4.2	4.9	5.4	5.9	6.8	7.25	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	10.5	12.74
29	12.94	1.6	2.0	2.75	3.25	3.75	4.4	5.0	5.6	6.2	6.8	7.5	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	10.5	10.5	12.94
30	12.64	1.5	2.0	2.6	3.3	3.75	4.3	5.0	5.6	6.25	6.8	7.5	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	10.5	10.5	12.64
41	10.80	0	.2	.6	1.0	1.5	2.0	2.6	3.1	3.75	4.25	4.8	5.4	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.3	10.5	10.80
42	10.76	0	.1	.5	1.0	1.5	2.0	2.6	3.0	3.6	4.25	4.75	5.3	5.8	6.4	6.8	7.5	8.0	8.5	9.0	9.3	10.5	10.76
43	10.66	0	.2	.6	1.1	1.6	2.1	2.4	3.0	3.5	4.1	4.6	5.25	5.6	6.3	6.5	7.3	7.6	8.2	8.8	9.25	10.5	10.66
44	10.79	0	.25	.75	1.25	1.6	2.2	2.6	3.25	3.75	4.75	4.8	5.3	6.0	6.5	6.8	7.4	7.6	8.2	8.8	9.3	10.25	10.79
45	10.71	0	.25	.6	1.0	1.5	2.0	2.6	3.1	3.75	4.4	4.75	5.5	5.9	6.3	6.8	7.5	8.0	8.2	8.9	9.2	10.6	10.71
46	10.69	0	.2	.6	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.6	5.25	5.6	6.2	6.75	7.2	7.8	8.3	8.75	9.25	10.5	10.72
47	10.70	0	.1	.6	1.1	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.3	5.75	6.25	6.75	7.25	7.6	8.25	8.75	9.25	10.5	10.72
48	10.74	0	.25	.5	.8	1.4	1.8	2.5	3.0	3.5	4.0	4.5	5.2	5.6	6.2	6.8	7.3	7.75	8.3	8.75	9.4	10.5	10.74
49	10.70	0	.2	.5	.8	1.3	1.8	2.3	3.0	3.5	4.1	4.75	5.3	5.8	6.2	6.75	7.25	7.75	8.2	8.75	9.2	10.5	10.73
50	10.80	0	.25	.6	1.0	1.5	2.0	2.6	3.2	3.75	4.3	4.8	5.3	5.8	6.25	6.8	7.25	7.8	8.3	8.75	9.5	10.25	10.70
51	12.01	1.0	1.5	2.0	2.5	3.1	3.6	4.1	4.75	5.25	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.01
52	11.34	.75	1.25	1.75	2.25	2.8	3.3	3.8	4.5	5.0	5.6	6.1	6.75	7.1	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	11.34
53	12.17	1.0	1.5	2.0	2.5	3.1	3.6	4.2	4.75	5.25	6.0	6.5	7.1	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.17
54	12.05	.9	1.3	1.8	2.4	3.0	3.6	4.2	4.6	5.25	5.9	6.4	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.05
55	12.13	1.0	1.4	2.0	2.5	3.0	3.6	4.25	4.8	5.3	6.0	6.5	7.1	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.13
56	12.01	.9	1.6	1.9	2.5	3.0	3.5	4.1	4.6	5.25	5.8	6.4	6.8	7.5	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.01
57	11.64	.75	1.1	1.6	2.1	2.6	3.3	3.8	4.4	5.0	5.6	6.1	6.75	7.1	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	11.64
58	12.06	1.0	1.4	2.0	2.5	3.0	3.6	4.25	4.75	5.3	6.0	6.6	7.1	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.06
59	12.06	.8	1.4	2.0	2.5	3.0	3.6	4.1	4.6	5.25	6.0	6.6	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.06
60	12.19	1.0	1.5	2.0	2.5	3.0	3.75	4.25	4.6	5.25	6.0	6.6	7.1	7.6	8.0	8.5	9.0	9.5	10.0	10.5	10.5	10.5	12.19

REMARKS: 1. See Page 35

RIFLE, 7.62MM, M14, SPRING, MAGAZINE (C-7267078)
STORAGE TEST - see Remarks

Spring No.	Free Length	LOAD (LBS.) AT COMPRESSED HEIGHT OF -- INCHES																				Free Length
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	
21	11.59	.25	.6	1.0	1.6	2.2	2.75	3.25	3.75	4.25	4.75	5.3	5.8	6.3	6.6	7.2	7.75	8.25	8.6	9.25	9.8	11.25
22	11.28	.15	.5	1.0	1.4	2.1	2.6	3.1	3.6	4.0	4.6	5.2	5.75	6.2	6.75	7.2	7.8	8.3	8.6	9.25	9.8	11.25
23	11.17	.25	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.2	6.75	7.2	7.8	8.2	8.6	9.25	9.8	11.25
24	11.35	.2	.6	1.0	1.4	2.0	2.6	3.1	3.6	4.1	4.5	5.2	5.75	6.3	6.8	7.4	7.8	8.3	8.6	9.25	9.8	11.25
25	11.06	0	.5	.8	1.3	1.9	2.4	2.8	3.3	4.0	4.5	5.1	5.6	6.1	6.6	7.25	7.7	8.0	8.5	9.25	10.0	11.5
26	11.35	.2	.6	1.0	1.5	2.0	2.4	3.0	3.6	4.2	4.6	5.3	5.8	6.3	6.9	7.5	7.9	8.5	9.0	9.3	10.0	11.25
27	11.73	.5	.6	1.2	1.35	2.3	2.8	3.4	3.9	4.3	5.0	5.6	6.3	6.9	7.5	7.8	8.25	8.9	9.2	9.8	11.3	11.30
28	11.54	.25	.75	1.2	1.75	2.2	2.8	3.5	4.0	4.5	4.9	5.5	6.0	6.5	7.0	7.5	8.0	8.3	8.75	9.3	9.75	11.1
29	11.68	.25	.6	1.2	1.6	2.1	2.8	3.4	3.8	4.4	5.0	5.5	6.0	6.5	7.0	7.5	7.8	8.5	8.8	9.5	10.0	11.24
30	11.32	.1	.6	1.0	1.6	2.1	2.75	3.2	3.75	4.3	4.8	5.4	5.8	6.4	7.0	7.5	7.8	8.5	8.8	9.5	10.0	11.30
31	11.53	.25	.75	1.2	1.75	2.3	2.8	3.5	4.0	4.3	5.0	5.6	6.2	6.75	7.3	7.75	8.3	8.75	9.25	9.75	10.5	11.37
32	11.39	.25	.75	1.1	1.6	2.25	2.8	3.4	3.8	4.5	5.0	5.5	6.1	6.75	7.2	7.75	8.3	8.75	9.3	9.75	10.5	11.37
33	11.53	.3	.75	1.25	1.75	2.3	2.7	3.5	4.0	4.5	5.0	5.6	6.2	6.6	7.3	7.8	8.2	8.75	9.3	9.8	10.25	11.5
34	11.58	.25	.75	1.25	1.75	2.3	2.8	3.4	4.0	4.5	5.1	5.6	6.1	6.8	7.5	8.0	8.4	8.75	9.3	10.00	10.5	11.46
35	11.30	.25	.6	1.25	2.0	2.3	2.8	3.5	4.0	4.5	5.1	5.75	6.2	6.75	7.5	8.0	8.4	8.75	9.25	9.6	10.3	11.25
36	11.31	.2	.6	1.1	1.6	2.1	2.6	3.3	3.8	4.4	5.0	5.6	6.2	6.8	7.3	7.8	8.2	8.8	9.3	9.8	10.5	11.29
37	11.29	.2	.6	1.2	1.6	2.2	2.8	3.3	3.8	4.4	5.0	5.6	6.0	6.6	7.25	7.75	8.3	8.8	9.3	9.75	10.5	11.10
38	11.56	.25	.6	1.2	1.6	2.2	2.75	3.3	3.75	4.4	5.2	5.8	6.25	6.8	7.5	7.75	8.2	8.8	9.3	9.75	10.4	11.53
39	11.44	.25	.75	1.2	1.6	2.2	2.75	3.3	3.8	4.4	5.1	5.8	6.25	6.8	7.5	7.8	8.2	8.7	9.3	9.8	10.3	11.25
40	11.72	.5	1.0	1.6	2.0	2.6	3.2	3.75	4.1	4.6	5.25	5.75	6.3	6.8	7.5	8.0	8.4	8.8	9.4	10.0	10.5	11.4
1	11.72	.5	1.0	1.5	2.1	2.5	3.25	3.6	4.25	4.75	5.25	5.75	6.3	6.75	7.5	7.8	8.5	9.0	9.25	10.0	10.75	12.1
2	11.85	.75	1.1	1.5	2.1	2.5	3.2	3.6	4.25	4.75	5.25	5.75	6.00	6.5	7.00	7.6	8.1	8.6	9.25	9.5	10.0	10.50
3	11.80	.75	1.25	1.6	2.25	2.6	3.25	3.75	4.25	4.8	5.5	6.00	6.5	7.00	7.6	8.25	8.6	9.3	9.6	10.0	10.75	12.25
4	11.73	.6	1.25	1.75	2.3	2.8	3.5	4.0	4.25	4.75	5.3	5.8	6.4	7.00	7.5	8.1	8.6	9.0	9.5	10.0	10.75	12.1
5	11.42	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.0	4.5	5.1	5.6	6.1	6.75	7.25	7.75	8.5	9.0	9.25	9.75	10.25	11.75
6	11.84	.8	1.5	2.0	2.5	2.8	3.3	4.0	4.25	4.8	5.3	5.8	6.5	7.00	7.3	7.8	8.6	9.1	9.5	10.3	10.6	12.25
7	11.77	.6	1.1	1.4	2.1	2.6	3.1	3.75	4.25	4.75	5.25	5.8	6.4	7.00	7.3	8.0	8.6	9.1	9.5	10.3	10.6	12.25
8	11.70	.6	1.1	1.5	2.1	2.5	3.1	3.75	4.25	4.75	5.25	5.8	6.4	7.00	7.5	8.0	8.6	9.1	9.5	10.3	10.6	12.1
9	11.32	.75	1.2	2.0	2.5	2.6	3.1	3.6	4.1	4.5	5.1	5.6	6.0	6.5	7.1	7.5	8.0	8.6	9.1	9.5	10.3	12.25
10	11.64	.75	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.5	5.1	5.6	6.0	6.6	7.1	7.5	8.1	8.6	9.0	9.5	10.3	12.00
11	11.61	.5	1.0	1.6	2.0	2.6	3.25	3.75	4.3	4.8	5.6	6.0	6.5	7.0	7.5	8.1	8.6	9.0	9.5	10.1	10.25	11.64
12	11.54	.5	1.0	1.5	2.0	2.5	3.2	3.7	4.2	4.8	5.5	6.0	6.5	7.0	7.5	8.1	8.6	9.0	9.5	10.0	10.5	12.3
13	11.59	.5	1.0	1.5	2.0	2.5	3.1	3.6	4.2	4.75	5.4	6.0	6.4	6.9	7.5	8.0	8.5	9.0	9.5	10.0	10.5	12.0
14	11.54	.5	1.0	1.4	2.0	2.5	3.0	3.6	4.1	4.75	5.3	5.8	6.3	6.75	7.5	8.0	8.5	9.0	9.4	10.0	10.2	12.2
15	11.64	.5	1.0	1.5	2.0	2.5	3.2	3.75	4.2	4.75	5.4	6.0	6.25	7.0	7.5	8.0	8.5	9.0	9.6	10.1	10.25	12.20
16	11.62	.5	1.0	1.5	2.0	2.5	3.1	3.6	4.2	4.75	5.4	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.6	10.1	10.5	12.4
17	11.65	.5	1.0	1.4	2.0	2.4	3.0	3.6	4.25	4.75	5.3	5.8	6.3	6.75	7.5	8.0	8.5	9.0	9.5	10.0	10.5	12.0
18	11.33	.5	1.0	1.5	2.0	2.5	3.1	3.6	4.25	4.75	5.3	5.8	6.25	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	12.25
19	11.63	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.25	4.75	5.4	5.8	6.3	6.8	7.4	8.0	8.5	9.0	9.5	10.0	10.5	12.00
20	11.58	.5	1.0	1.4	2.0	2.5	3.0	3.6	4.25	4.75	5.4	5.8	6.3	6.8	7.5	8.1	8.5	9.0	9.5	10.0	10.5	12.25

- REMARKS: 1. Springs 21 thru 30 stress-relieved only and stored in empty magazine.
2. Springs 31 thru 60 stress-relieved and heat-set, stored in empty magazine.
3. Empty magazines were loaded with 20 rounds one time and above free height and load readings resulted.
4. Springs 1 thru 10 stress-relieved only and Springs 31 thru 40 stress-relieved and heat-set were stored in the free condition for 8 weeks.

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - see Remarks

SPRING	RIFLE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF - INCHES																			RIFLE LENGTH		
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0		1.5	1.0
1	11.69	.6	1.1	1.6	2.0	2.6	3.2	3.75	4.25	4.6	5.25	5.6	6.3	6.8	7.5	8.1	8.6	9.1	9.75	10.2	10.6	11.0	11.64
2	11.80	.75	1.2	1.6	2.1	2.6	3.25	3.75	4.3	4.75	5.3	5.75	6.5	7.0	7.6	8.2	9.0	9.4	9.7	10.25	10.75	11.5	11.75
3	11.76	.75	1.2	1.6	2.2	2.6	3.25	3.75	4.3	4.8	5.4	6.0	6.4	7.1	7.6	8.2	8.75	9.4	9.75	10.3	10.75	12.2	11.71
4	11.68	.75	1.25	1.8	2.4	2.6	3.25	3.75	4.25	4.75	5.3	5.8	6.5	7.0	7.5	8.1	8.6	9.25	9.6	10.0	10.6	12.0	11.70
5	11.38	.6	1.1	1.5	1.8	2.4	3.0	3.6	4.1	4.75	5.2	5.75	6.2	6.75	7.3	7.8	8.2	9.0	9.4	9.8	10.4	11.4	11.33
6	11.80	.8	1.2	1.8	2.2	2.8	3.25	3.75	4.2	4.8	5.3	6.0	6.5	7.0	7.6	8.2	8.6	9.3	9.6	10.2	10.5	12.0	11.76
7	11.73	.8	1.3	1.75	2.2	2.75	3.2	3.75	4.2	4.8	5.3	6.0	6.5	7.0	7.5	8.25	8.6	9.25	9.5	10.2	10.75	12.0	11.66
8	11.68	.75	1.2	1.75	2.2	2.6	3.0	3.75	4.2	4.8	5.3	6.0	6.4	7.1	7.6	8.2	8.75	9.25	9.5	10.0	10.6	12.2	11.64
9	11.64	.6	1.0	1.5	2.0	2.5	3.1	3.6	4.1	4.75	5.25	5.75	6.2	6.75	7.25	7.75	8.3	8.75	9.25	9.5	10.25	11.75	11.60
10	11.76	.6	1.1	1.6	2.2	2.6	3.0	3.6	4.1	4.75	5.25	5.75	6.25	6.8	7.5	8.0	8.5	9.2	9.6	10.0	10.4	12.1	11.76
11	11.52	.5	.75	1.3	2.0	2.5	3.0	3.75	4.2	4.75	5.25	5.8	6.25	6.8	7.5	8.0	8.6	9.2	9.5	10.0	10.6	11.75	11.46
12	11.49	.4	.75	1.3	1.8	2.5	3.0	3.75	4.25	4.75	5.3	5.8	6.5	6.9	7.3	8.0	8.5	9.25	9.5	9.8	10.3	11.6	11.43
13	11.53	.3	.75	1.25	1.8	2.3	2.8	3.6	4.1	4.75	5.2	5.75	6.3	6.8	7.25	8.0	8.5	9.0	9.5	10.0	10.6	11.5	11.50
14	11.44	.4	.75	1.2	1.8	2.3	3.0	3.5	4.0	4.5	5.1	5.6	6.25	6.75	7.3	8.0	8.4	8.8	9.5	9.8	10.3	11.5	11.40
15	11.59	.5	.9	1.3	2.0	2.5	3.0	3.5	4.0	4.6	5.1	5.75	6.25	6.75	7.25	8.0	8.5	9.0	9.5	10.0	10.5	11.6	11.54
16	11.59	.5	.9	1.3	1.9	2.5	3.0	3.5	4.0	4.6	5.2	5.75	6.3	6.75	7.25	8.0	8.5	9.0	9.5	9.9	10.6	11.5	11.52
17	11.58	.5	.8	1.25	1.8	2.4	3.0	3.5	4.0	4.6	5.25	5.75	6.3	6.75	7.25	8.0	8.4	9.0	9.4	10.0	10.5	11.5	11.45
18	11.49	.5	.75	1.25	1.8	2.4	3.0	3.5	4.0	4.6	5.25	5.75	6.25	6.8	7.3	8.0	8.5	9.0	9.5	10.0	10.5	11.5	11.49
19	11.54	.5	1.0	1.3	1.8	2.3	3.0	3.5	4.0	4.6	5.25	5.8	6.25	6.8	7.3	8.0	8.5	9.0	9.5	10.0	10.5	11.5	11.45
20	11.50	.5	1.0	1.4	1.8	2.25	2.9	3.5	4.0	4.6	5.25	5.8	6.25	6.8	7.25	8.0	8.5	9.0	9.5	9.8	10.5	11.2	11.45
21	11.66	.5	.8	1.3	1.8	2.3	3.0	3.5	4.0	4.6	5.2	5.6	6.2	6.8	7.3	7.8	8.3	8.6	9.2	9.8	10.2	12.0	11.62
22	11.77	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.0	4.6	5.3	5.75	6.3	6.8	7.3	7.8	8.5	9.0	9.3	9.8	10.3	12.5	11.72
23	11.72	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.6	5.3	5.6	6.25	6.75	7.3	7.8	8.5	9.0	9.3	9.8	10.3	12.5	11.65
24	11.70	.6	1.2	1.75	2.2	2.8	3.3	3.8	4.0	4.5	5.3	5.6	6.25	6.75	7.3	8.1	8.5	9.1	9.3	9.75	10.2	12.25	11.68
25	11.42	.5	1.0	1.6	1.8	2.3	2.8	3.3	4.0	4.5	5.3	6.0	6.4	6.8	7.3	8.2	8.6	9.25	9.5	9.75	10.2	11.8	11.36
26	11.77	.6	1.2	1.6	2.1	2.3	3.0	3.6	4.1	4.6	5.2	5.75	6.3	6.8	7.25	7.8	8.5	9.0	9.5	10.0	10.3	12.0	11.74
27	11.69	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.6	5.1	5.75	6.3	6.75	7.3	8.0	8.5	9.0	9.5	9.75	10.3	11.8	11.68
28	11.65	.4	1.0	1.3	1.8	2.5	3.0	3.5	4.0	4.6	5.2	5.75	6.25	6.75	7.3	8.0	8.4	8.8	9.25	9.8	10.3	12.2	11.64
29	11.75	.6	1.2	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.75	6.2	6.8	7.3	8.0	8.2	9.1	9.3	9.75	10.1	12.0	11.70
30	11.60	.4	1.0	1.3	1.75	2.3	2.8	3.5	4.0	4.5	5.0	5.6	6.1	6.75	7.25	7.75	8.25	8.6	9.1	9.5	9.6	11.75	11.60
31	11.42	.4	.9	1.2	2.0	2.2	3.0	3.6	4.1	4.5	5.0	5.5	6.25	7.0	7.5	8.0	8.5	8.75	9.4	9.5	10.0	12.5	11.42
32	11.41	.3	.7	1.2	2.0	2.3	3.0	3.5	4.0	4.5	5.0	5.6	6.25	6.8	7.3	7.8	8.3	9.0	9.3	9.75	10.2	12.25	11.39
33	11.49	.3	.8	1.25	1.8	2.3	3.0	3.5	4.0	4.5	5.0	5.6	6.2	6.75	7.25	7.75	8.25	8.8	9.25	9.75	10.2	12.0	11.43
34	11.40	.25	.75	1.1	1.8	2.25	2.8	3.4	4.0	4.5	5.0	5.6	6.2	6.6	7.25	7.75	8.25	8.5	9.25	9.75	10.1	12.5	11.36
35	11.35	.3	1.0	1.5	1.8	2.5	3.0	3.6	4.0	4.6	5.25	5.75	6.3	6.75	7.3	7.8	8.3	9.0	9.3	9.75	10.5	12.00	11.53
36	11.34	.5	.8	1.5	1.8	2.3	3.0	3.5	4.2	4.6	5.3	5.75	6.25	6.75	7.5	8.0	8.4	9.0	9.3	9.8	10.6	12.75	11.52
37	11.50	.3	.75	1.25	1.75	2.3	2.8	3.5	4.0	4.6	5.3	5.6	6.2	6.75	7.3	7.75	8.25	8.75	9.3	9.8	10.2	12.75	11.48
38	11.46	.3	.75	1.1	1.75	2.3	3.0	3.5	4.0	4.5	5.1	5.6	6.25	6.75	7.3	7.6	8.2	8.6	9.4	9.8	10.1	12.1	11.42
39	11.53	.3	.75	1.25	1.75	2.2	2.8	3.5	4.0	4.6	5.1	5.75	6.2	6.75	7.3	7.6	8.3	8.8	9.5	9.8	10.3	12.0	11.47
40	11.50	.5	.8	1.1	1.75	2.25	2.8	3.5	4.0	4.5	5.0	6.1	6.1	6.75	7.3	7.75	8.25	8.6	9.3	9.75	10.0	11.5	11.44

REMARKS: 1. Springs No. 1* thru No. 10 and No. 31 thru No. 40 were stored FREE for 16 weeks.
 2. Springs No. 1** thru No. 10 and No. 31 thru No. 40 were stored FREE for 24 weeks.

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
SOTRAGE TEST - see Remarks

SPRING LENGTH	LOAD (LBS) AT COMPRESSED WEIGHT OF -- INCHES												RIFLE LENGTH									
	11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5		5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0
11	10.46	0	0	.4	.6	1.1	1.5	2.0	2.6	3.2	3.7	4.2	4.8	5.4	5.7	6.3	6.5	7.0	7.5	8.0	8.5	9.4
12	10.32	0	0	.25	.5	.8	1.4	2.0	2.5	3.1	3.6	4.2	4.7	5.3	5.7	6.25	6.5	7.0	7.4	8.0	8.5	9.5
13	10.36	0	0	.2	.5	.8	1.4	2.0	2.5	3.2	3.7	4.2	4.7	5.3	5.7	6.25	6.5	7.0	7.5	8.0	8.5	9.5
14	10.35	0	0	.25	.6	.8	1.4	2.0	2.5	3.1	3.6	4.2	4.7	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.5
15	10.35	0	0	.25	.6	.8	1.4	2.0	2.5	3.2	3.6	4.25	4.75	5.25	5.75	6.25	6.5	7.0	7.4	8.0	8.5	9.4
21	11.16	.1	.6	1.00	1.3	1.75	2.1	2.75	3.25	3.8	4.3	5.0	5.6	6.1	6.5	6.2	6.4	7.0	7.4	8.0	8.5	9.4
22	11.18	.1	.5	.8	1.3	1.75	2.25	2.9	3.4	4.0	4.5	5.1	5.75	6.3	6.8	7.0	7.5	8.0	8.5	9.0	9.5	10.5
23	11.06	.1	.3	.75	1.25	1.75	2.25	2.9	3.4	4.0	4.5	5.0	5.6	6.1	6.5	6.25	6.5	7.0	7.5	8.0	8.5	9.5
24	11.18	.1	.4	.75	1.25	1.75	2.25	2.9	3.4	4.0	4.5	5.0	5.6	6.1	6.5	6.25	6.5	7.0	7.5	8.0	8.5	9.5
25	11.06	.0	.3	.75	1.25	1.75	2.25	2.9	3.4	4.0	4.5	5.0	5.6	6.1	6.5	6.25	6.5	7.0	7.5	8.0	8.5	9.5
41	10.72	0	.25	.6	1.0	1.4	2.0	2.5	3.0	3.5	4.1	4.6	5.3	5.75	6.25	6.6	7.1	7.5	8.25	8.75	9.25	10.5
42	10.70	0	.25	.6	1.0	1.3	1.9	2.5	3.0	3.5	4.1	4.5	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.1	10.4
43	10.62	0	.1	.5	.8	1.3	1.9	2.4	3.0	3.5	4.1	4.6	5.3	5.75	6.2	6.5	7.0	7.5	8.0	8.5	9.3	10.6
44	10.66	0	.1	.6	.8	1.3	1.9	2.4	3.0	3.5	4.1	4.5	5.25	5.75	6.25	6.5	7.1	7.4	7.9	8.4	9.25	10.5
45	10.70	0	.1	.6	.8	1.25	1.8	2.4	3.0	3.5	4.1	4.5	5.25	5.75	6.25	6.5	7.1	7.4	7.9	8.4	9.25	10.5
51	11.38	.25	.5	1.0	1.5	2.1	2.5	3.1	3.75	4.1	5.0	5.6	6.25	6.8	7.5	7.1	7.4	7.9	8.4	9.1	10.0	10.5
52	11.36	.25	.5	1.0	1.5	2.0	2.6	3.25	3.75	4.1	5.0	5.6	6.25	6.8	7.5	7.1	7.4	7.9	8.4	9.1	10.0	10.5
53	11.48	.4	.6	1.0	1.5	2.1	2.6	3.25	3.8	4.3	5.0	5.6	6.25	6.8	7.5	7.1	7.4	7.9	8.4	9.1	10.0	10.5
54	11.46	.3	.6	1.0	1.5	2.1	2.6	3.25	3.8	4.3	5.0	5.5	6.1	6.7	7.3	6.9	7.4	7.9	8.4	9.1	10.0	10.5
55	11.48	.3	.6	1.0	1.5	2.1	2.6	3.25	3.8	4.3	5.0	5.5	6.1	6.7	7.3	6.9	7.4	7.9	8.4	9.1	10.0	10.5
11	10.44	0	0	.4	.6	1.1	1.5	2.0	2.6	3.25	3.75	4.25	4.8	5.4	5.75	6.3	6.5	7.0	7.5	8.0	8.5	9.4
12	10.32	0	0	.25	.5	.8	1.4	2.0	2.5	3.1	3.6	4.25	4.75	5.3	5.75	6.25	6.5	7.0	7.4	8.0	8.5	9.4
13	10.36	0	0	.2	.5	.8	1.4	2.0	2.5	3.2	3.7	4.25	4.75	5.3	5.75	6.25	6.5	7.0	7.5	8.0	8.4	9.5
14	10.34	0	0	.25	.6	.8	1.4	2.0	2.5	3.2	3.6	4.25	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.4	9.4
15	10.35	0	0	.25	.6	.8	1.4	2.0	2.5	3.2	3.6	4.25	4.75	5.25	5.75	6.25	6.5	7.0	7.4	8.0	8.4	9.4
21	10.96	0	.3	.6	1.0	1.6	2.1	2.75	3.25	3.8	4.25	4.8	5.5	6.0	6.5	7.0	7.5	8.0	8.4	8.8	9.4	10.5
22	11.04	.1	.5	.75	1.25	1.75	2.25	2.8	3.4	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.5	8.0	8.4	8.75	9.3	10.4
23	10.92	0	.3	.75	1.25	1.6	2.25	2.75	3.25	3.9	4.5	5.0	5.6	6.1	6.5	7.0	7.5	8.0	8.4	8.75	9.25	10.4
24	11.08	.1	.4	.75	1.25	1.75	2.25	2.9	3.4	4.0	4.5	5.0	5.5	6.0	6.5	7.1	7.5	8.0	8.4	8.75	9.25	10.4
25	10.92	0	.4	.75	1.25	1.75	2.25	2.8	3.3	4.0	4.5	5.0	5.6	6.0	6.4	7.0	7.4	7.8	8.25	8.6	9.1	10.0
41	10.72	0	.25	.6	1.0	1.4	2.0	2.5	3.0	3.5	4.1	4.6	5.3	5.75	6.1	6.6	7.1	7.5	8.1	8.5	9.1	10.4
42	10.70	0	.25	.6	1.0	1.3	1.9	2.5	3.0	3.5	4.1	4.6	5.25	5.75	6.25	6.6	7.1	7.5	8.0	8.6	9.1	10.4
43	10.62	0	.1	.5	.8	1.25	1.8	2.4	3.0	3.5	4.1	4.5	5.25	5.75	6.2	6.5	7.0	7.5	8.0	8.5	9.1	10.4
44	10.66	0	.1	.6	.8	1.25	1.8	2.4	3.0	3.5	4.1	4.5	5.25	5.75	6.25	6.5	7.0	7.4	7.9	8.4	9.25	10.5
45	10.72	.25	.5	1.0	1.5	2.1	2.5	3.1	3.6	4.0	5.0	5.4	6.00	6.5	7.0	7.5	8.0	8.6	9.0	9.25	10.0	10.5
51	11.16	.25	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.0	5.0	5.4	6.00	6.5	7.0	7.5	8.0	8.6	9.0	9.25	10.0	10.5
52	11.24	.25	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.0	5.0	5.4	6.00	6.5	7.0	7.5	8.0	8.6	9.0	9.25	10.0	10.5
53	11.30	.3	.6	1.0	1.5	2.0	2.5	3.0	3.6	4.0	5.0	5.4	6.00	6.5	7.0	7.5	8.0	8.6	9.0	9.25	10.0	10.5
54	11.30	.3	.6	1.0	1.5	2.0	2.5	3.0	3.6	4.0	5.0	5.4	6.00	6.5	7.0	7.5	8.0	8.6	9.0	9.25	10.0	10.5
55	11.30	.3	.6	1.0	1.5	2.0	2.5	3.0	3.6	4.0	5.0	5.4	6.00	6.5	7.0	7.5	8.0	8.6	9.0	9.25	10.0	10.5

REMARKS: 1. Spring stored for 48 weeks then subjected to actual weapon firing (7 loadings)
No malfunction attributable to the magazine assembly was reported.

2. *Results prior to weapon firing:

- a. Springs 11 thru 15 - loaded - stress-relieved only.
- b. Springs 21 thru 25 - empty, one loading at 24 weeks - stress-relieved only.
- c. Springs 41 thru 45 - loaded - stress-relieved and heat-set.
- d. Springs 51 thru 55 - empty, one loading at 24 weeks - stress-relieved and heat-set.

**Results after weapon firing.

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - see Remarks

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED HEIGHT OF - INCHES																			FREE LENGTH		
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0		1.5	1.0
16	10.62	0	.25	.6	1.0	1.6	2.1	2.6	3.1	3.75	4.25	4.75	5.3	5.75	6.25	6.75	7.1	7.6	8.0	8.3	8.5	9.75	10.50
17	10.36	0	0	.25	.6	1.0	1.6	2.1	2.6	3.25	3.8	4.3	4.9	5.4	6.00	6.5	7.0	7.5	7.8	8.3	8.6	9.75	10.33
18	10.49	0	0	.3	.75	1.25	1.75	2.25	2.8	3.4	4.0	4.4	5.0	5.5	6.00	6.5	7.0	7.5	7.75	8.25	8.6	9.75	10.46
19	10.49	0	0	.3	.75	1.25	1.75	2.25	2.8	3.4	4.0	4.4	5.0	5.5	6.0	6.5	7.0	7.5	7.75	8.25	8.6	9.75	10.46
20	10.45	0	0	.4	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	7.8	8.25	8.6	9.75	10.43
26	11.16	.25	.50	1.0	1.5	2.0	2.5	3.1	3.6	4.1	4.6	5.3	5.9	6.5	7.0	7.5	8.0	8.5	8.8	9.1	10.1	10.70	
27	11.30	.3	.6	1.1	1.6	2.1	2.6	3.25	3.75	4.25	4.8	5.5	6.1	6.75	7.25	7.75	8.25	8.6	9.1	9.6	10.6	10.66	
28	11.26	.25	.5	1.0	1.5	2.0	2.6	3.25	3.75	4.25	4.75	5.4	6.0	6.75	7.25	7.75	8.25	8.6	9.1	9.6	10.6	10.66	
29	11.30	.3	.6	1.1	1.6	2.1	2.6	3.25	3.75	4.25	4.8	5.5	6.1	6.75	7.25	7.75	8.25	8.6	9.1	9.6	10.6	10.66	
30	11.23	.25	.5	1.0	1.5	2.0	2.6	3.25	3.75	4.25	4.8	5.4	6.0	6.75	7.25	7.75	8.25	8.6	9.1	9.6	10.6	10.66	
46	10.73	0	.25	.6	1.0	1.6	2.1	2.75	3.25	3.75	4.3	4.8	5.4	5.9	6.5	7.0	7.5	8.0	8.5	9.1	10.1	10.70	
47	10.70	0	.25	.6	1.0	1.6	2.1	2.75	3.25	3.75	4.3	4.8	5.4	5.9	6.5	7.0	7.5	8.0	8.5	9.1	10.1	10.70	
48	10.68	0	.25	.6	1.0	1.6	2.0	2.6	3.25	3.75	4.25	4.75	5.3	5.75	6.25	6.75	7.25	7.5	8.0	8.5	9.1	10.25	
49	10.68	0	.25	.6	1.0	1.6	2.0	2.6	3.25	3.75	4.25	4.75	5.3	5.75	6.25	6.75	7.25	7.5	8.0	8.5	9.1	10.25	
50	10.66	0	.25	.6	1.0	1.5	2.0	2.6	3.25	3.75	4.25	4.75	5.3	5.75	6.25	6.75	7.25	7.5	8.0	8.5	9.1	10.25	
56	11.26	.25	.6	1.1	1.6	2.1	2.6	3.25	3.8	4.3	4.8	5.6	6.25	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.46	10.66	
57	11.16	.2	.5	1.0	1.6	2.1	2.6	3.25	3.8	4.3	4.8	5.6	6.25	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.46	10.66	
58	11.53	.4	.75	1.25	1.75	2.25	2.75	3.50	4.0	4.5	5.0	5.75	6.4	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.66	10.66	
59	11.39	.3	.6	1.1	1.6	2.25	2.75	3.50	4.0	4.5	5.0	5.75	6.4	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.66	10.66	
60	11.47	.4	.75	1.25	1.75	2.75	2.75	3.50	4.0	4.5	5.0	5.75	6.4	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.66	10.66	
16	10.47	0	0	.5	.8	1.3	1.8	2.3	2.8	3.3	3.8	4.4	5.1	5.6	6.1	6.6	7.1	7.6	8.0	8.5	9.0	9.8	10.46
17	10.33	0	0	.3	.75	1.1	1.6	2.25	2.75	3.25	3.75	4.3	4.9	5.5	6.0	6.5	7.0	7.5	8.0	8.4	8.8	9.75	10.31
18	10.32	0	0	.3	.75	1.1	1.6	2.25	2.75	3.25	3.75	4.3	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.4	8.8	9.75	10.31
19	10.46	0	0	.5	.75	1.25	1.75	2.25	2.75	3.25	3.75	4.3	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.4	8.8	9.75	10.45
20	10.44	0	0	.5	.75	1.25	1.75	2.25	2.75	3.25	3.75	4.3	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	8.8	9.75	10.45
26	11.04	.1	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.75	11.0	11.01
27	11.13	.25	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.75	11.0	11.10
28	11.12	.25	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	11.0	11.10
29	11.16	.25	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	11.0	11.13
30	11.14	.25	.5	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	11.0	11.11
46	10.66	0	.25	.6	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	10.25	10.65
47	10.66	0	.25	.6	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	10.25	10.65
48	10.68	0	.25	.6	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	10.25	10.66
49	10.68	0	.25	.6	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	10.25	10.65
50	10.66	0	.25	.6	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	10.25	10.65
56	11.17	.25	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	11.0	11.13
57	11.04	.1	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	11.0	11.00
58	11.38	.4	.6	1.1	1.6	2.1	2.6	3.1	3.6	4.25	4.75	5.25	5.75	6.25	6.75	7.25	7.75	8.25	8.75	9.25	9.8	11.25	11.34
59	11.30	.3	.6	1.1	1.6	2.1	2.6	3.1	3.6	4.25	4.75	5.25	5.75	6.25	6.75	7.25	7.75	8.25	8.75	9.25	9.8	11.25	11.28
60	11.35	.4	.6	1.1	1.6	2.1	2.6	3.1	3.6	4.25	4.75	5.25	5.75	6.25	6.75	7.25	7.75	8.25	8.75	9.25	9.8	11.25	11.34

REMARKS: 1. Springs stored for 52 weeks (1 year), then subjected to actual weapon firing (7 loadings)
Following malfunctions were reported:
a. Spring #18 - 1 stubbed round
b. Spring #19 - 2 stubbed round
c. Spring #57 - 1 partial override

2. *Results prior to weapon firing:
a. Springs 16 thru 20 - loaded - stress-relieved only
b. Springs 26 thru 30 - empty, one loading at 24 wks - stress-relieved and heat-set
c. Springs 46 thru 50 - loaded - stress-relieved and heat-set
d. Springs 56 thru 60 - empty - one loading at 24 weeks - stress-relieved and heat-set.

**Results after weapon firing.

APPENDIX A

REPORT
SA-TR11-2643

RIFLE, 7.26MM, M14, SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 2 years

TIME (HRS)	LOAD (LBS) AT COMPRESSED HEIGHT OF INCHES	HEIGHT (INCH)																					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	
11	10.34	0	0	.25	.4	.8	1.3	1.8	2.4	3.1	3.6	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.4	
12	10.27	0	0	.1	.3	.75	1.3	1.8	2.4	3.0	3.5	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.4	
13	10.34	0	0	.1	.3	.75	1.3	1.8	2.4	3.0	3.5	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.3	
14	10.34	0	0	.25	.4	.8	1.3	1.8	2.4	3.1	3.6	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.3	
15	10.32	0	0	.25	.4	.8	1.3	1.8	2.4	3.1	3.6	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.4	8.0	8.5	9.3	
16	10.41	0	0	.3	.6	1.0	1.6	2.0	2.5	3.0	3.6	4.25	4.8	5.4	5.8	6.4	6.9	7.3	7.7	8.1	8.6	9.7	
17	10.24	0	0	.3	.5	.9	1.4	1.8	2.4	3.1	3.7	4.1	4.6	5.25	5.75	6.25	6.6	7.1	7.5	8.1	8.6	9.6	
18	10.24	0	0	.25	.4	.8	1.3	1.75	2.25	3.0	3.5	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.6	9.5	
19	10.41	0	0	.3	.6	1.0	1.6	2.1	2.6	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.7	7.2	7.6	8.2	8.75	9.6	
20	10.42	0	0	.3	.6	1.0	1.6	2.1	2.6	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.7	7.2	7.6	8.2	8.75	9.6	
21	10.91	0	.25	.5	1.0	1.5	2.0	2.6	3.1	3.6	4.1	4.8	5.25	5.75	6.3	6.75	7.2	7.6	8.2	8.75	9.6	10.41	
22	11.00	0	.4	.8	1.1	1.6	2.1	2.75	3.25	3.75	4.25	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	10.41	
23	10.97	0	.4	.8	1.1	1.5	2.0	2.6	3.1	3.75	4.1	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	10.41	
24	11.00	0	.3	.8	1.3	1.6	2.3	2.8	3.4	3.8	4.25	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	11.00	
25	10.98	0	.4	.8	1.0	1.5	2.1	2.6	3.1	3.75	4.25	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	10.41	
26	10.98	0	.3	.75	1.25	1.75	2.25	2.75	3.25	3.75	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	10.41	
27	11.00	0	.3	.8	1.3	1.75	2.25	2.75	3.3	3.8	4.3	5.0	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	11.00	
28	11.00	0	.3	1.0	1.3	1.75	2.25	2.75	3.3	3.8	4.3	5.0	5.5	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	11.00	
29	11.10	0	.3	1.0	1.3	1.8	2.3	2.8	3.4	3.8	4.4	5.0	5.5	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	11.00	
30	11.10	0	.3	1.0	1.3	1.8	2.3	2.8	3.4	3.8	4.4	5.0	5.5	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	11.00	
31	11.00	0	.3	.25	.4	.8	1.4	1.8	2.4	3.0	3.5	4.0	4.75	5.25	5.6	6.00	6.5	7.0	7.4	8.0	8.5	9.5	
32	10.32	0	0	.1	.4	.75	1.3	1.8	2.4	3.0	3.5	4.0	4.6	5.25	5.6	6.00	6.5	7.0	7.5	8.0	8.5	9.5	
33	10.21	0	0	.1	.4	.75	1.3	1.8	2.4	3.0	3.5	4.0	4.6	5.25	5.6	6.00	6.5	7.0	7.5	8.0	8.5	9.5	
34	10.21	0	0	.1	.4	.75	1.3	1.8	2.4	3.0	3.5	4.1	4.6	5.25	5.6	6.0	6.4	7.0	7.5	8.0	8.5	9.5	
35	10.31	0	0	.1	.4	.75	1.3	1.8	2.4	3.0	3.5	4.1	4.6	5.25	5.6	6.1	6.5	7.0	7.5	8.0	8.6	9.6	
36	10.31	0	0	.1	.4	.75	1.3	1.8	2.4	3.0	3.5	4.1	4.75	5.3	5.6	6.1	6.5	7.0	7.5	8.1	8.6	9.6	
37	10.31	0	0	.1	.4	.75	1.3	1.8	2.4	3.0	3.5	4.1	4.75	5.3	5.6	6.1	6.5	7.1	7.6	8.1	8.6	9.6	
38	10.31	0	0	.1	.4	.75	1.3	1.8	2.4	3.0	3.5	4.1	4.6	5.25	5.5	6.0	6.4	7.0	7.5	8.0	8.5	9.6	
39	10.21	0	0	.1	.4	.75	1.4	2.1	2.5	3.1	3.6	4.1	4.75	5.3	5.6	6.25	6.6	7.1	7.6	8.2	8.75	9.6	
40	10.34	0	0	.1	.4	.75	1.4	2.1	2.5	3.1	3.6	4.1	4.75	5.25	5.6	6.25	6.7	7.2	7.6	8.2	8.75	9.6	
41	10.34	0	.25	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.5	7.0	7.5	8.0	8.5	9.1	10.2	
42	10.90	0	.4	.8	1.1	1.6	2.1	2.6	3.1	3.5	4.1	4.6	5.0	5.6	6.25	6.6	7.1	7.6	8.1	8.5	9.25	10.99	
43	10.90	0	.4	.8	1.1	1.6	2.2	2.75	3.1	3.6	4.0	4.6	5.1	5.6	6.25	6.6	7.1	7.6	8.1	8.5	9.25	10.99	
44	10.90	0	.3	.8	1.3	1.75	2.3	2.8	3.3	3.6	4.1	4.6	5.1	5.6	6.25	6.6	7.1	7.6	8.2	8.6	9.3	10.4	
45	10.81	0	.4	.8	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.6	8.0	8.4	9.0	10.49	
46	10.90	0	.4	.8	1.1	1.5	2.0	2.5	3.0	3.5	4.1	4.5	5.0	5.5	6.1	6.6	7.1	7.6	8.1	8.5	9.1	10.3	
47	11.00	0	.5	1.0	1.4	1.75	2.3	2.8	3.4	3.75	4.2	4.75	5.25	5.75	6.25	6.8	7.3	7.8	8.3	8.75	9.5	10.7	
48	11.00	0	.5	1.0	1.4	1.75	2.3	2.8	3.4	3.75	4.25	4.75	5.25	5.75	6.25	6.8	7.3	7.8	8.3	8.75	9.5	10.7	
49	11.01	0	.5	1.0	1.4	1.75	2.3	2.75	3.3	3.8	4.3	4.75	5.25	5.75	6.25	6.8	7.3	7.8	8.3	8.75	9.5	10.7	
50	11.01	0	.5	1.0	1.4	1.75	2.3	2.75	3.3	3.8	4.3	4.75	5.25	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.5	10.8	
51	11.02	0	.5	1.0	1.4	1.8	2.3	2.8	3.3	3.8	4.3	4.75	5.25	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.5	10.8	

- REMARKS:
1. All springs were stress-relieved only.
 2. Springs 11 thru 20 stored loaded.
 3. Springs 21 thru 30 stored unloaded.
 4. *Load and height checks prior to weapon firing.
 5. **Load and height checks after six weapon loadings.

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 2 years

SPECS	FEET	LOAD (LBS) AT COMPRESSED HEIGHT OF --- INCHES																	FEET					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0		2.5	2.0	1.5	1.0	
41	10.67	0	.25	.5	.8	1.3	1.8	2.5	3.0	3.5	4.0	4.5	5.25	5.6	6.0	6.5	7.0	7.5	8.0	8.4	9.0	10.1	10.67	
42	10.68	0	.25	.5	.8	1.3	1.8	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.5	7.0	7.5	8.0	8.5	9.1	10.1	10.67	
43	10.58	0	.1	.4	.75	1.1	1.75	2.4	2.8	3.4	4.0	4.4	5.0	5.5	6.0	6.5	6.8	7.4	7.8	8.4	9.0	9.8	10.55	
44	10.60	0	.1	.4	.75	1.25	1.75	2.3	2.75	3.3	3.9	4.3	5.0	5.5	6.0	6.25	6.75	7.3	7.75	8.4	9.1	10.0	10.58	
45	10.63	0	.1	.4	.75	1.25	1.6	2.25	2.8	3.3	3.9	4.4	5.0	5.4	6.0	6.25	6.75	7.3	7.75	8.3	9.25	9.8	10.58	
46	10.61	0	.1	.4	.8	1.3	1.8	2.3	2.8	3.3	3.8	4.4	4.9	5.4	5.8	6.3	6.8	7.4	7.8	8.4	9.1	10.1	10.59	
47	10.60	0	.1	.4	.8	1.3	1.8	2.3	2.8	3.3	3.8	4.4	4.9	5.4	5.8	6.3	6.8	7.4	7.8	8.4	9.1	10.1	10.59	
48	10.63	0	.25	.5	.9	1.4	1.9	2.4	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.4	9.0	10.25	10.60	
49	10.65	0	.25	.5	1.0	1.4	1.9	2.4	3.0	3.4	4.0	4.4	4.9	5.4	5.8	6.4	6.8	7.4	8.0	8.4	9.1	10.25	10.61	
50	10.66	0	.1	.4	.8	1.3	1.9	2.4	3.0	3.5	4.0	4.5	5.0	5.5	5.8	6.4	6.8	7.4	8.0	8.5	9.1	10.25	10.63	
51	11.24	.25	.4	.8	1.4	1.9	2.5	3.0	3.5	4.0	4.75	5.3	5.8	5.5	5.8	6.3	6.75	7.3	7.8	8.3	9.0	10.1	10.60	
52	11.22	.25	.4	.8	1.4	1.9	2.5	3.0	3.5	4.0	4.75	5.25	5.75	5.5	5.8	6.3	6.75	7.3	7.8	8.3	9.0	10.1	10.60	
53	11.28	.25	.4	.8	1.4	1.9	2.5	3.0	3.5	4.0	4.75	5.25	5.75	5.5	5.8	6.3	6.75	7.3	7.8	8.3	9.0	10.1	10.60	
54	11.28	.25	.4	.8	1.4	1.9	2.5	3.0	3.5	4.0	4.75	5.3	5.8	5.5	5.8	6.3	6.75	7.3	7.8	8.3	9.0	10.1	10.60	
55	11.28	.25	.4	.8	1.4	1.9	2.5	3.0	3.5	4.0	4.75	5.3	5.8	5.5	5.8	6.3	6.75	7.3	7.8	8.3	9.0	10.1	10.60	
56	11.17	.25	.3	1.0	1.4	1.8	2.4	2.9	3.4	4.0	4.6	5.0	5.5	5.6	6.0	6.5	7.0	7.5	8.0	8.4	9.0	10.1	10.60	
57	11.00	0	.4	.8	1.3	1.75	2.3	2.75	3.4	4.1	4.6	5.0	5.5	5.6	6.0	6.5	7.0	7.5	8.0	8.4	9.0	10.1	10.60	
58	11.34	.25	.6	1.0	1.4	1.9	2.5	3.0	3.6	4.25	4.75	5.25	5.75	5.5	5.8	6.3	6.75	7.3	7.8	8.3	9.0	10.1	10.60	
59	11.28	.25	.5	1.0	1.4	1.9	2.5	2.9	3.5	4.1	4.75	5.25	5.75	5.5	5.8	6.3	6.75	7.3	7.8	8.3	9.0	10.1	10.60	
60	11.28	.25	.5	1.0	1.4	1.8	2.25	2.75	3.5	4.1	4.6	5.1	5.6	5.6	6.0	6.5	7.0	7.5	8.0	8.4	9.0	10.1	10.60	
61	10.70	0	.3	.6	.8	1.4	1.8	2.3	2.8	3.4	4.0	4.5	5.1	5.6	6.0	6.6	7.0	7.5	8.0	8.4	9.0	10.1	10.60	
62	10.68	0	.25	.5	.8	1.3	1.75	2.3	2.75	3.3	4.0	4.5	5.1	5.6	6.0	6.6	7.0	7.5	8.0	8.4	9.0	10.1	10.60	
63	10.55	0	.1	.5	.8	1.1	1.6	2.1	2.6	3.3	3.8	4.3	5.0	5.5	6.0	6.5	7.0	7.4	7.8	8.4	9.0	9.75	10.55	
64	10.58	0	.1	.5	.8	1.25	1.6	2.1	2.6	3.4	3.8	4.4	5.1	5.4	6.0	6.3	6.75	7.3	7.75	8.4	9.0	10.0	10.58	
65	10.57	0	.1	.5	.75	1.25	1.6	2.1	2.6	3.4	3.8	4.4	5.1	5.4	6.0	6.3	6.75	7.3	7.75	8.4	9.0	10.0	10.58	
66	10.62	0	.1	.5	.8	1.3	1.75	2.3	2.75	3.3	3.8	4.4	4.9	5.4	5.8	6.3	6.8	7.5	7.8	8.5	9.0	9.8	10.57	
67	10.61	0	.1	.5	.8	1.25	1.6	2.3	2.75	3.3	3.8	4.5	4.9	5.4	5.8	6.3	6.8	7.5	7.8	8.5	9.0	10.1	10.59	
68	10.50	0	0	.3	.8	1.25	1.5	2.1	2.6	3.4	3.9	4.4	4.9	5.5	6.0	6.5	7.0	7.5	8.0	8.4	8.75	10.1	10.60	
69	10.63	0	.25	.6	1.0	1.3	1.75	2.3	2.75	3.5	4.0	4.5	4.9	5.4	5.8	6.4	6.8	7.5	8.0	8.4	8.75	10.1	10.60	
70	10.55	0	.1	.5	.8	1.25	1.6	2.1	2.6	3.4	3.9	4.4	4.9	5.4	5.8	6.4	6.8	7.5	8.0	8.5	9.0	10.1	10.62	
71	11.17	.1	.4	.8	1.4	2.0	2.5	3.0	3.4	4.0	4.5	5.1	5.6	6.0	6.5	7.0	7.75	8.25	8.6	9.1	9.4	10.5	10.55	
72	11.22	.1	.4	.8	1.4	2.0	2.5	3.0	3.5	4.0	4.6	5.0	5.6	6.1	6.6	7.1	7.8	8.25	8.6	9.2	9.5	10.6	11.17	
73	11.25	.25	.5	.8	1.4	2.0	2.5	3.0	3.5	4.0	4.6	5.1	5.6	6.1	6.6	7.1	7.8	8.25	8.6	9.2	9.5	10.6	11.21	
74	11.28	.25	.5	.8	1.5	2.0	2.5	3.0	3.5	4.0	4.6	5.1	5.5	6.0	6.5	7.0	7.75	8.3	8.75	9.3	9.6	10.5	11.26	
75	11.25	.25	.5	.8	1.4	2.1	2.5	3.0	3.4	4.0	4.5	5.0	5.6	6.0	6.5	7.0	7.75	8.25	8.6	9.25	9.5	10.6	11.24	
76	11.13	.1	.4	.75	1.4	1.8	2.3	2.8	3.4	4.0	4.5	5.0	5.4	5.9	6.5	7.0	7.75	8.25	8.6	9.25	9.5	10.6	11.24	
77	11.00	0	.4	.75	1.25	1.8	2.3	2.8	3.3	3.8	4.4	4.8	5.3	5.75	6.4	6.8	7.5	8.0	8.5	9.1	9.6	10.5	11.26	
78	11.40	.3	.6	1.0	1.4	1.9	2.3	3.0	3.6	4.1	4.6	5.1	5.5	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	10.5	11.00	
79	11.20	.25	.5	.8	1.5	2.0	2.6	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.1	9.6	10.5	11.00	
80	10.75	0	.3	.9	1.4	1.8	2.3	2.8	3.4	3.8	4.3	4.75	5.25	5.8	6.25	6.75	7.25	7.6	8.1	8.6	9.1	9.5	10.3	10.75

- REMARKS:
1. All springs were stress-relieved and heat-set.
 2. Springs 41 thru 50 stored loaded.
 3. Springs 51 thru 60 stored unloaded.
 4. *Load and height checks prior to weapon firing.
 5. **Load and height checks after six weapon loadings.

REPORT
SA-TR11-2643RIFLE, 7.62MM, M14, SPRING MAGAZINE (C7267078)
STORAGE TEST - 3 years

SPRING NO.	FIRE HEIGHT	LOAD (LBS) AT COMPRESSED HEIGHT OF — INCHES																					
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	
11	10.30	0	0	0	-4	-8	1.3	1.8	2.4	3.1	3.6	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.4	
12	10.16	0	0	-1	-3	-7.5	1.1	1.75	2.3	2.8	3.4	4.0	4.6	5.1	5.6	6.1	6.5	7.0	7.5	8.0	8.5	9.4	
13	10.24	0	0	0	0	-7.5	1.3	1.8	2.4	3.0	3.5	4.1	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.3	
14	10.18	0	0	0	0	-7.5	1.1	1.75	2.3	2.8	3.4	4.0	4.6	5.1	5.6	6.1	6.0	7.0	7.5	8.0	8.6	9.4	
15	10.24	0	0	0	0	-8	1.3	1.8	2.4	3.0	3.5	4.0	4.75	5.25	5.75	6.25	6.5	7.0	7.5	8.0	8.5	9.3	
16	10.32	0	0	0	0	-8	1.5	2.0	2.6	3.1	3.6	4.1	4.8	5.4	5.75	6.25	6.75	7.25	7.75	8.25	8.6	9.5	
17	10.24	0	0	0	0	-8	1.3	1.8	2.4	3.0	3.5	4.1	4.6	5.3	5.75	6.25	6.75	7.25	7.75	8.25	8.6	9.5	
18	10.16	0	0	0	0	-7.5	1.1	1.75	2.3	2.8	3.4	4.0	4.6	5.1	5.5	6.0	6.5	7.0	7.5	8.1	8.6	9.4	
19	10.30	0	0	0	0	-8	1.5	2.0	2.5	3.0	3.5	4.0	4.8	5.4	5.75	6.25	6.75	7.25	7.6	8.0	8.5	9.3	
20	10.28	0	0	0	0	-8	1.5	1.9	2.5	3.0	3.5	4.1	4.75	5.25	5.75	6.25	6.75	7.25	7.6	8.25	8.5	9.4	
21	10.88	0	0	0	0	-8	1.5	2.0	2.6	3.1	3.6	4.1	4.75	5.25	5.75	6.25	6.75	7.25	7.6	8.25	8.5	9.4	
22	10.92	0	0	0	0	-8	1.5	2.0	2.6	3.1	3.6	4.25	4.75	5.3	5.75	6.25	6.75	7.25	7.6	8.25	8.5	9.4	
23	10.87	0	0	0	0	-8	1.3	2.0	2.6	3.1	3.6	4.1	4.75	5.3	5.75	6.25	6.75	7.25	7.6	8.25	8.5	9.4	
24	10.98	0	0	0	0	-8	1.5	2.0	2.6	3.1	3.6	4.1	4.75	5.3	5.75	6.25	6.75	7.25	7.6	8.25	8.5	9.4	
25	10.82	0	0	0	0	-8	1.5	2.0	2.6	3.1	3.6	4.1	4.75	5.25	5.75	6.25	6.75	7.25	7.6	8.25	8.5	9.4	
26	10.85	0	0	0	0	-8	1.3	2.0	2.6	3.1	3.6	4.1	4.75	5.3	5.75	6.25	6.75	7.25	7.6	8.25	8.5	9.4	
27	11.02	0	0	0	0	-6	1.1	1.6	2.1	2.6	3.25	3.8	4.3	5.0	5.6	6.1	6.6	7.0	7.5	8.0	8.5	9.4	
28	11.02	0	0	0	0	-6	1.1	1.6	2.1	2.6	3.25	3.8	4.3	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.4	
29	11.03	0	0	0	0	-6	1.1	1.6	2.1	2.6	3.25	3.8	4.4	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.4	
30	11.02	0	0	0	0	-6	1.1	1.6	2.1	2.6	3.25	3.8	4.4	5.0	5.6	6.0	6.5	7.0	7.5	8.0	8.5	9.4	
31	10.24	0	0	0	0	-25	-4	-8	1.4	1.8	2.4	3.0	3.5	4.0	4.75	5.25	5.6	6.0	6.5	7.0	7.4	8.0	
32	10.16	0	0	0	0	-1	-3	-7.5	1.1	1.75	2.3	2.8	3.3	4.0	4.6	5.1	5.6	6.0	6.6	7.0	7.5	8.0	
33	10.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
34	10.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35	10.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
36	10.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
37	10.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
38	10.15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
39	10.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
40	10.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
41	10.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
42	10.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
43	10.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
44	10.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
45	10.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
46	10.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
47	11.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
48	11.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
49	11.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50	11.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

REMARKS: 1. All springs were stress-relieved only.

2. Springs 11 thru 20 stored loaded.

3. Springs 21 thru 30 stored unloaded.

4. *Load and height checks prior to weapon firing.

5. **Load and height checks after six weapon loadings.

REPORT
SA-TR11-2643

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST - 3 years

SPRING NO.	FREE HEIGHT	LOAD (LBS) AT COMPRESSED HEIGHT OF --- INCHES																	FREE HEIGHT				
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0		2.5	2.0	1.5	1.0
41*	10.64	0	.1	.3	.8	1.25	1.75	2.3	3.0	3.6	4.0	4.6	5.1	5.6	6.25	6.5	7.0	7.5	8.1	8.5	9.0	10.1	10.62
42	10.58	0	.1	.3	.75	1.1	1.75	2.25	3.0	3.5	4.0	4.6	5.1	5.6	6.25	6.5	7.0	7.5	8.1	8.5	9.0	10.0	10.57
43	10.56	0	.1	.3	.75	1.1	1.75	2.25	3.0	3.5	4.0	4.6	5.0	5.5	6.1	6.6	7.1	7.6	8.1	8.5	9.0	10.0	10.54
44	10.62	0	.1	.4	.75	1.25	1.75	2.3	2.75	3.3	4.1	4.3	5.0	5.5	6.0	6.25	5.75	7.3	7.75	8.4	9.25	10.0	10.62
45	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.4	4.0	4.5	5.0	5.5	6.1	6.3	6.75	7.3	7.75	8.3	9.0	10.0	10.50
46	10.62	0	.1	.3	.75	1.1	1.75	2.25	3.0	3.5	4.0	4.4	4.9	5.4	5.8	6.3	6.8	7.4	7.8	8.4	9.0	10.1	10.62
47	10.57	0	.1	.3	.75	1.1	1.75	2.25	3.0	3.5	4.0	4.6	5.0	5.5	5.8	6.3	6.8	7.3	7.75	8.5	9.0	10.0	10.56
48	10.38	0	0	.25	.5	1.1	1.6	2.25	2.9	3.25	3.8	4.3	4.8	5.3	5.8	6.4	7.0	7.4	7.8	8.4	8.75	9.75	10.58
49	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.4	4.0	4.5	5.0	5.5	6.1	6.6	7.1	7.6	8.1	8.6	9.0	10.0	10.50
50	10.52	0	0	.25	.6	1.1	1.6	2.1	2.8	3.4	4.0	4.5	5.0	5.5	6.1	6.6	7.0	7.5	8.0	8.5	9.0	10.0	10.51
51	11.20	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.1	4.6	5.1	5.5	5.5	6.1	6.6	7.0	7.5	8.0	8.5	9.0	10.0	11.18
52	11.22	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.1	4.6	5.1	5.5	5.5	6.1	6.6	7.0	7.5	8.0	8.5	9.0	10.0	11.18
53	11.24	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.1	4.6	5.1	5.6	5.6	6.1	6.6	7.0	7.5	8.0	8.5	9.0	10.0	11.24
54	11.24	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.1	4.6	5.1	5.6	5.6	6.1	6.6	7.0	7.5	8.0	8.5	9.0	10.0	11.24
55	11.24	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.1	4.6	5.1	5.6	5.6	6.1	6.6	7.0	7.5	8.0	8.5	9.0	10.0	11.24
56	11.14	.1	.25	.75	1.25	1.75	2.25	2.9	3.5	4.0	4.5	5.0	5.5	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0	11.13
57	11.00	0	.25	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.4	5.4	5.8	6.4	7.0	7.4	7.8	8.4	8.75	9.75	11.00
58	11.40	.1	.4	.8	1.3	1.8	2.3	3.0	3.6	4.1	4.6	5.0	5.6	5.6	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0	11.40
59	11.20	.1	.3	.8	1.3	1.8	2.3	3.0	3.5	4.1	4.5	5.0	5.5	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0	11.20
60	10.60	0	.1	.6	.8	1.25	1.75	2.4	3.0	3.5	4.0	4.5	5.1	5.6	6.0	6.75	7.0	7.5	8.0	8.4	9.0	10.0	10.60
61*	10.62	0	.1	.3	.8	1.25	1.75	2.3	2.9	3.4	4.0	4.6	5.1	5.6	6.0	6.75	7.0	7.5	8.0	8.4	9.0	10.0	10.62
62	10.56	0	.1	.3	.75	1.1	1.75	2.25	2.75	3.5	4.0	4.6	5.1	5.6	6.0	6.6	7.0	7.5	8.0	8.5	9.0	10.0	10.58
63	10.54	0	.1	.3	.75	1.1	1.75	2.25	2.6	3.5	4.0	4.5	5.0	5.5	6.1	6.6	7.1	7.6	8.1	8.5	9.0	10.0	10.54
64	10.62	0	.1	.3	.8	1.25	1.75	2.3	2.6	3.6	4.0	4.6	5.0	5.6	6.0	6.4	7.0	7.3	7.75	8.4	9.0	10.0	10.54
65	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.4	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0	10.50
66	10.56	0	.1	.3	.75	1.1	1.6	2.1	2.8	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.6	8.0	8.6	9.0	10.0	10.55
67	10.56	0	.1	.3	.75	1.1	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.6	8.0	8.6	9.0	10.0	10.55
68	10.38	0	0	.25	.6	1.0	1.6	2.1	2.75	3.25	3.8	4.3	4.8	5.3	5.8	6.3	7.0	7.4	7.8	8.4	8.75	9.6	10.38
69	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.4	4.0	4.5	5.0	5.5	6.0	6.4	7.0	7.6	8.0	8.6	9.0	10.0	10.50
70	10.52	0	0	.25	.6	1.1	1.6	2.1	2.8	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.4	8.0	8.4	9.0	10.0	10.50
71	11.20	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.0	4.6	5.1	5.5	5.5	6.1	6.6	7.1	7.5	8.0	8.5	9.0	10.0	11.18
72	11.18	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.0	4.6	5.0	5.5	6.1	6.6	7.1	7.5	8.0	8.5	9.0	9.4	10.5	11.18
73	11.22	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.0	4.6	5.1	5.5	6.1	6.6	7.1	7.5	8.0	8.5	9.0	9.4	10.5	11.22
74	11.24	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.0	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.5	10.6	11.24
75	11.24	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.0	4.6	5.0	5.6	6.0	6.5	7.0	7.6	8.1	8.6	9.1	9.5	10.6	11.24
76	11.13	.1	.25	.75	1.25	1.75	2.25	2.9	3.5	4.0	4.5	5.0	5.4	5.4	5.8	6.4	7.0	7.5	8.0	8.4	8.9	9.3	10.25
77	11.00	0	.25	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.4	5.4	5.8	6.4	7.0	7.4	7.8	8.3	8.75	9.25	11.00
78	11.36	.1	.3	.8	1.3	1.8	2.3	3.0	3.6	4.1	4.5	5.0	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.5	10.6	11.36
79	11.18	.1	.25	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.4	10.5	11.17
80	10.60	0	.1	.6	.8	1.25	1.75	2.4	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.4	7.8	8.3	8.8	9.8	10.60

- REMARKS: 1. All springs were stress-relieved and heat-set.
2. Springs 41 thru 50 stored loaded.
3. Springs 51 thru 60 stored unloaded.
4. *Load check prior to weapon firing.
5. **Load check after six weapon loadings.

RIFLE 7.62MM M14 SPRING, MAGAZINE (C7267078)

Hot Storage Test - Temperature +165°F to +170°F																										
Spring No.	Magazine Condition	Specification	2		4		6		8		10		14		20		24		36		52		After 6 loadings	Loss	Total	REMARKS
			Weeks	inches	Weeks	inches	Weeks	inches	Weeks	inches	Weeks	inches	Weeks	inches	Weeks	inches	Weeks	inches	Weeks	inches	Weeks	inches				
67	Unloaded	Free length	11.65"	11.25"	11.24"	11.24"	11.24"	11.21"	11.17"	11.17"	11.15"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.12"	.53"	11.10"	.02"	.55"	1. Springs #67 #68 #69 #70 were stress relieved and cold set.
		P1 @ 8.5"	3.00"	2.75"	2.75"	2.75"	2.50"	2.50"	2.50"	2.50"	2.50"	2.44"	2.25"	2.34"	2.25"	2.34"	2.25"	2.34"	2.25"	2.34"	2.25"	.75"	2.25"	-.75"		
69	Unloaded	Free length	11.55"	11.28"	11.13"	11.11"	11.08"	11.08"	11.02"	11.02"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	.56"	10.96"	.03"	.59"	2. Springs #75 #76 #77 #78 were stress relieved and heat set.
		P1 @ 8.5"	2.90"	2.60"	2.60"	2.60"	2.40"	2.40"	2.40"	2.40"	2.40"	2.30"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	.65"	2.25"	-.55"		
75	Unloaded	Free length	12.13"	12.02"	12.02"	12.02"	12.02"	12.02"	12.02"	12.02"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	.94"	5.40"	.54"	.67"	3. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	3.75"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	.94"	5.40"	.54"	.67"	
77	Unloaded	Free length	11.91"	11.83"	11.83"	11.83"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.80"	.11"	11.30"	.50"	.81"	4. Report from Test Br: a. Sprs #67, #69, #75, #77, #83 functioned satisfactorily. b. Sprs #85, #78 #86 one stubbed round. c. Spr #68, six stubbed rounds. d. Spr #70, nine stubbed rounds. e. Spr #76, three stubbed rounds. f. Spr #84, ten stubbed rounds. 5. Incremental load check taken after the six loadings only.
		P1 @ 8.5"	3.30"	3.30"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	.20"	3.04"	.10"	.30"	
83	Unloaded	Free length	14.07"	12.79"	12.70"	12.66"	12.66"	12.60"	12.47"	12.46"	12.44"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.40"	1.67"	11.30"	1.10"	2.77"	5. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	6.40"	5.00"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
85	Unloaded	Free length	14.12"	12.84"	12.80"	12.75"	12.75"	12.62"	12.57"	12.57"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.47"	1.65"	11.28"	1.19"	2.84"	6. Report from Test Br: a. Sprs #67, #69, #75, #77, #83 functioned satisfactorily. b. Sprs #85, #78 #86 one stubbed round. c. Spr #68, six stubbed rounds. d. Spr #70, nine stubbed rounds. e. Spr #76, three stubbed rounds. f. Spr #84, ten stubbed rounds. 5. Incremental load check taken after the six loadings only.
		P1 @ 8.5"	6.60"	5.10"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
68	Loaded	Free length	11.54"	10.25"	9.83"	9.74"	9.74"	9.57"	9.42"	9.42"	9.39"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.33"	2.21"	9.33"	3.64"	2.21"	7. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	6.20"	5.10"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
70	Loaded	Free length	11.59"	10.20"	9.86"	9.76"	9.76"	9.59"	9.45"	9.45"	9.41"	9.39"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.33"	2.26"	9.33"	3.64"	2.26"	8. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	6.30"	5.00"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
76	Loaded	Free length	12.20"	11.46"	10.37"	10.28"	10.28"	10.04"	9.94"	9.94"	9.91"	9.70"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	7.30"	6.10"	5.20"	5.10"	5.10"	4.75"	4.20"	4.20"	4.20"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	
78	Loaded	Free length	12.21"	11.40"	10.35"	10.24"	10.24"	10.02"	9.96"	9.96"	9.94"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	10. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	7.25"	6.30"	5.25"	5.00"	5.00"	4.50"	4.20"	4.20"	4.20"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	
94	Loaded	Free length	14.17"	11.02"	9.99"	9.95"	9.95"	9.72"	9.51"	9.51"	9.48"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	11. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	9.60"	5.75"	5.00"	4.50"	4.50"	4.00"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	
36	Loaded	Free length	14.25"	11.09"	9.94"	9.88"	9.88"	9.64"	9.56"	9.56"	9.53"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	12. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	9.70"	5.60"	4.80"	4.40"	4.40"	4.00"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	
67	Unloaded	Free length	11.65"	11.25"	11.24"	11.24"	11.24"	11.21"	11.17"	11.17"	11.15"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.13"	11.12"	.53"	11.10"	.02"	.55"	13. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	3.00"	2.75"	2.75"	2.75"	2.50"	2.50"	2.50"	2.50"	2.50"	2.44"	2.25"	2.34"	2.25"	2.34"	2.25"	2.34"	2.25"	2.34"	2.25"	.75"	2.25"	-.75"		
69	Unloaded	Free length	11.55"	11.28"	11.13"	11.11"	11.08"	11.08"	11.02"	11.02"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	10.99"	.56"	10.96"	.03"	.59"	14. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	2.90"	2.60"	2.60"	2.60"	2.40"	2.40"	2.40"	2.40"	2.40"	2.30"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	.65"	2.25"	-.55"		
75	Unloaded	Free length	12.13"	12.02"	12.02"	12.02"	12.02"	12.02"	12.02"	12.02"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	12.01"	.94"	5.40"	.54"	.67"	15. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	3.75"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	3.54"	.94"	5.40"	.54"	.67"	
77	Unloaded	Free length	11.91"	11.83"	11.83"	11.83"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.82"	11.80"	.11"	11.30"	.50"	.81"	16. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	3.30"	3.30"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	3.20"	.20"	3.04"	.10"	.30"	
83	Unloaded	Free length	14.07"	12.79"	12.70"	12.66"	12.66"	12.60"	12.47"	12.46"	12.44"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.41"	12.40"	1.67"	11.30"	1.10"	2.77"	17. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	6.40"	5.00"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
85	Unloaded	Free length	14.12"	12.84"	12.80"	12.75"	12.75"	12.62"	12.57"	12.57"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.54"	12.47"	1.65"	11.28"	1.19"	2.84"	18. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	6.60"	5.10"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
68	Loaded	Free length	11.54"	10.25"	9.83"	9.74"	9.74"	9.57"	9.42"	9.42"	9.39"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.33"	2.21"	9.33"	3.64"	2.21"	19. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	6.20"	5.10"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
70	Loaded	Free length	11.59"	10.20"	9.86"	9.76"	9.76"	9.59"	9.45"	9.45"	9.41"	9.39"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.36"	9.33"	2.26"	9.33"	3.64"	2.26"	20. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	6.30"	5.00"	4.75"	4.75"	4.75"	4.50"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	4.10"	2.40"	6.94"	1.40"	.75"	
76	Loaded	Free length	12.20"	11.46"	10.37"	10.28"	10.28"	10.04"	9.94"	9.94"	9.91"	9.70"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	9.67"	21. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	7.30"	6.10"	5.20"	5.10"	5.10"	4.75"	4.20"	4.20"	4.20"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	3.90"	
78	Loaded	Free length	12.21"	11.40"	10.35"	10.24"	10.24"	10.02"	9.96"	9.96"	9.94"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	9.78"	22. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	7.25"	6.30"	5.25"	5.00"	5.00"	4.50"	4.20"	4.20"	4.20"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	4.00"	
94	Loaded	Free length	14.17"	11.02"	9.99"	9.95"	9.95"	9.72"	9.51"	9.51"	9.48"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	9.46"	23. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	9.60"	5.75"	5.00"	4.50"	4.50"	4.00"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	3.60"	
36	Loaded	Free length	14.25"	11.09"	9.94"	9.88"	9.88"	9.64"	9.56"	9.56"	9.53"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	9.50"	24. Springs #83 #84 #85 #86 were stress relieved only.
		P1 @ 8.5"	9.70"	5.60"	4.80"	4.40"	4.40"	4.00"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	3.75"	

LOAD AT COMPRESSED LENGTH OF - INCHES

Spring No.	Free Length		LOAD AT COMPRESSED LENGTH OF - INCHES																57			
	11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	
67	11.10	.6	.0	1.5	2.0	2.25	2.75	3.5	4.1	4.6	5.1	5.6	6.1	6.75	7.4	8.1	8.5	9.1	9.5	9.8	11.00	11.37
68	9.38	0	0	0	0	.75	1.25	1.8	2.3	3.0	3.6	4.25	4.8	5.4	5.9	6.3	6.6	6.6	7.25	8.0	9.00	9.36
69	10.95	0	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.4	6.0	6.75	7.4	8.1	8.5	9.1	9.5	9.75	11.00
70	9.36	0	0	0	0	.75	1.25	1.8	2.3	2.8	3.2	3.5	4.25	4.75	5.4	5.9	6.2	6.5	7.35	8.0	9.00	9.36
75	11.46	.5	1.0	1.5	2.0	2.5	3.1	3.50	4.0	4.6	5.1	5.6	6.1	6.6	7.1	7.5	8.1	8.6	9.1	9.75	10.4	11.6
76	9.46	0	0	0	0	.8	1.4	2.0	2.4	3.1	3.5	3.9	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.1	9.5	9.46
77	11.30	.4	1.0	1.4	1.8	2.4	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.6	7.1	7.6	8.1	8.6	9.1	9.75	10.5	11.28
78	9.46	0	0	0	0	.8	1.4	2.0	2.4	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.1	9.5	9.46
83	11.30	.5	1.0	1.4	1.8	2.4	3.0	3.5	4.0	4.5	5.0	5.5	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	10.25	11.3
84	9.68	0	0	0	0	1.0	1.6	2.2	2.8	3.4	3.9	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.25	10.5
85	9.68	0	0	0	0	1.0	1.6	2.2	2.8	3.4	3.9	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.25	10.5

REPORT
SA-TR11-2643RIFLE 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
COLD STORAGE TEST - Temperature -65°F

Part No.	Magazine Condition	Specification	Orif.	LOAD AT COMPRESSED LENGTH OF - INCHES										Loss	Loss	Total	REMARKS
				2	4	6	8	10	12	24	36	52	72				
63	Unloaded	Free length	81.61"	11.59"	11.59"	11.59"	11.59"	11.59"	11.59"	11.47"	11.47"	11.47"	11.47"	11.20"	11.20"	11.20"	1. Sprs #63, #64, #65 and #66 were stress relieved and cold set.
		P @ 8.5"	2.98	2.75	2.75	2.75	2.75	2.75	2.75	2.60	2.60	2.60	2.60	2.40	2.40	2.40	
		P @ 5.5"	6.18	6.04	6.04	6.04	6.04	6.04	6.04	5.75	5.75	5.75	5.75	5.25	5.25	5.25	
65	Unloaded	Free length	11.53"	11.51"	11.51"	11.51"	11.51"	11.51"	11.50"	11.46"	11.46"	11.45"	11.45"	11.04"	11.04"	11.04"	1. Sprs. #71, #72, #73 and #74 were stress relieved and heat set.
		P @ 8.5"	2.86	2.75	2.75	2.75	2.75	2.75	2.75	2.59	2.59	2.59	2.59	2.09	2.09	2.09	
		P @ 5.5"	6.26	6.10	6.09	6.09	6.09	6.09	6.09	5.99	5.99	5.99	5.99	5.49	5.49	5.49	
71	Unloaded	Free length	12.19"	12.17"	12.17"	12.17"	12.17"	12.17"	12.17"	12.07"	12.07"	12.05"	12.05"	11.44"	11.44"	11.44"	3. Sprs. #79, #80, #81 and #82 were stress relieved only.
		P @ 8.5"	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.58	3.58	3.58	3.58	3.08	3.08	3.08	
		P @ 5.5"	7.39	7.19	7.09	7.09	7.09	7.09	7.09	6.75	6.75	6.75	6.75	6.19	6.19	6.19	
73	Unloaded	Free length	12.19"	12.19"	12.16"	12.16"	12.16"	12.16"	12.16"	12.12"	12.12"	12.11"	12.10"	11.20"	11.20"	11.20"	4. Report from Test Br. a. Spr #66 mm. atubbed round.
		P @ 8.5"	3.75	3.75	3.60	3.60	3.60	3.60	3.60	3.50	3.50	3.50	3.50	3.00	3.00	3.00	
		P @ 5.5"	7.39	7.25	7.10	7.10	7.10	7.10	7.10	6.75	6.75	6.75	6.75	6.00	6.00	6.00	
79	Unloaded	Free length	14.17"	13.26"	13.15"	13.08"	13.04"	13.04"	13.04"	12.90"	12.90"	12.88"	12.88"	11.32"	11.32"	11.32"	b. All other springs performed satisfactorily.
		P @ 8.5"	6.44	5.28	4.78	4.78	4.68	4.68	4.58	4.18	4.18	4.08	4.08	2.48	2.48	2.48	
		P @ 5.5"	9.68	8.08	8.08	8.08	8.08	8.08	8.08	7.58	7.58	7.48	7.48	6.08	6.08	6.08	
81	Unloaded	Free length	14.21"	13.23"	13.09"	13.06"	13.04"	13.04"	13.04"	13.04"	13.04"	13.04"	13.04"	11.40"	11.40"	11.40"	5. Incremental load check taken after the six loading only.
		P @ 8.5"	6.64	5.18	4.68	4.68	4.68	4.68	4.58	4.25	4.25	4.08	4.08	2.68	2.68	2.68	
		P @ 5.5"	9.88	8.58	7.98	7.98	7.98	7.98	7.98	7.58	7.58	7.48	7.48	6.18	6.18	6.18	
84	Loaded	Free length	11.53"	11.54"	11.54"	11.54"	11.54"	11.54"	11.54"	11.46"	11.46"	11.46"	11.46"	10.97"	10.97"	10.97"	6. Weapon firing for both hot and cold temperature springs was conducted under ideal conditions.
		P @ 5.5"	6.28	5.75	5.60	5.60	5.60	5.60	5.60	5.25	5.25	5.25	5.25	4.75	4.75	4.75	
		P @ 2.5"	9.28	8.75	8.58	8.58	8.58	8.58	8.58	8.25	8.25	8.25	8.25	7.75	7.75	7.75	
86	Loaded	Free length	11.49"	11.25"	11.23"	11.08"	11.04"	10.95"	10.95"	10.83"	10.83"	10.83"	10.83"	10.36"	10.36"	10.36"	
		P @ 5.5"	6.28	6.04	5.75	5.60	5.60	5.60	5.60	5.25	5.25	5.25	5.25	4.80	4.80	4.80	
		P @ 2.5"	9.48	8.88	8.68	8.68	8.68	8.68	8.68	8.38	8.38	8.38	8.38	7.98	7.98	7.98	
72	Loaded	Free length	12.30"	11.74"	11.54"	11.46"	11.46"	11.46"	11.46"	11.38"	11.38"	11.38"	11.38"	10.97"	10.97"	10.97"	
		P @ 5.5"	7.28	6.38	6.25	6.18	6.18	6.18	6.18	5.88	5.88	5.88	5.88	5.28	5.28	5.28	
		P @ 2.5"	10.68	9.58	9.25	9.25	9.25	9.25	9.25	8.98	8.98	8.98	8.98	8.58	8.58	8.58	
74	Loaded	Free length	12.13"	11.62"	11.47"	11.24"	11.24"	11.24"	11.24"	11.06"	11.06"	11.06"	11.06"	10.74"	10.74"	10.74"	
		P @ 5.5"	7.25	6.58	6.25	6.08	6.08	6.08	6.08	5.78	5.78	5.78	5.78	5.28	5.28	5.28	
		P @ 2.5"	10.48	9.58	9.25	9.25	9.25	9.25	9.25	8.98	8.98	8.98	8.98	8.58	8.58	8.58	
80	Loaded	Free length	14.13"	11.73"	11.73"	11.43"	11.43"	11.43"	11.43"	11.38"	11.38"	11.38"	11.38"	10.80"	10.80"	10.80"	
		P @ 5.5"	9.78	6.58	6.25	6.18	6.18	6.18	6.18	5.88	5.88	5.88	5.88	5.28	5.28	5.28	
		P @ 2.5"	11.98	9.58	9.08	8.98	8.98	8.98	8.98	8.68	8.68	8.68	8.68	8.28	8.28	8.28	
82	Loaded	Free length	14.28"	11.75"	11.53"	11.43"	11.43"	11.43"	11.43"	11.38"	11.38"	11.38"	11.38"	10.80"	10.80"	10.80"	
		P @ 5.5"	9.75	6.68	6.08	6.08	6.08	6.08	6.08	5.88	5.88	5.88	5.88	5.28	5.28	5.28	
		P @ 2.5"	11.68	9.75	9.18	9.18	9.18	9.18	9.18	8.88	8.88	8.88	8.88	8.48	8.48	8.48	

RIFLE, 7.62MM, M14, SPRING, MAGAZINE (C-7267078)

STORAGE TEST, 5 Years - See Remarks

SPRING NO.	RIFLE LENGTH	LOAD (LBS) AT COMPRESSED LENGTH OF _____ INCHES																	RIFLE TYPE			
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0		2.5	2.0	1.5
11*	10.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	10.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	10.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	10.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	10.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	10.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	10.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	10.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	10.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	10.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	10.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	10.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	10.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	10.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	10.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	11.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11*	10.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	10.14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	10.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	10.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	10.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	10.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	10.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	10.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	10.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	10.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	10.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	10.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	10.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	10.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	10.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	10.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMARKS: 1. All springs were stress-relieved for 30 minutes at 400°F.

2. Springs 11 thru 20 were stored unloaded.

3. Springs 21 thru 30 were stored unloaded.

4. *Load and height checks prior to weapon firing.

5. **Load and height checks after weapon firing.

REPORT
SA-TR11-2643

RIFLE, 7.62MM, M14 SPRING, MAGAZINE (C-7267078)
STORAGE TEST, 5 Years - See Remarks

SPRING NO.	FREE LENGTH	LOAD (LBS) AT COMPRESSED LENGTH OF INCHES																			FULL LENGTH	
		11.0	10.5	10.0	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0		1.5
41*	10.58	0	.1	.3	.8	1.25	1.75	2.3	2.8	3.4	3.8	4.6	5.0	5.5	6.0	6.5	7.0	7.4	7.8	8.3	8.8	9.75
42	10.56	0	.1	.3	.75	1.25	1.75	2.25	2.75	3.5	4.0	4.5	5.1	5.5	5.8	6.5	6.8	7.5	7.8	8.4	8.8	9.6
43	10.52	0	0	.3	.75	1.1	1.75	2.25	2.6	3.5	4.0	4.5	5.0	5.5	6.0	6.5	6.8	7.4	8.0	8.4	9.0	9.6
44	10.58	0	.1	.3	.8	1.1	1.75	2.3	2.6	3.5	4.0	5.0	5.4	6.0	6.3	7.0	7.3	7.75	8.25	8.8	9.5	10.58
45	10.46	0	0	.25	.6	1.1	1.6	2.1	2.75	3.4	4.0	4.5	5.0	5.5	5.8	6.5	7.0	7.4	7.8	8.4	8.75	9.6
46	10.50	0	0	.3	.6	1.1	1.6	2.1	2.75	3.5	4.0	4.5	5.0	5.4	5.8	6.5	7.0	7.5	8.0	8.5	8.6	9.75
47	10.50	0	0	.3	.75	1.1	1.75	2.25	2.75	3.5	4.0	4.5	5.0	5.4	6.0	6.4	7.0	7.4	8.0	8.5	8.75	9.6
48	10.40	0	0	.25	.6	1.0	1.6	2.1	2.75	3.3	3.75	4.3	4.8	5.3	5.8	6.3	6.8	7.4	7.8	8.4	8.75	9.5
49	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.4	4.0	4.4	4.8	5.4	5.8	6.4	6.8	7.4	8.0	8.5	8.75	9.6
50	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.5	4.0	4.4	4.8	5.4	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
51	11.14	.1	.25	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.5	5.1	5.5	5.5	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
52	11.14	.1	.25	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.5	5.0	5.5	5.5	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
53	11.20	.1	.3	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.5	5.0	5.5	5.5	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
54	11.22	.1	.3	.8	1.3	1.8	2.25	3.0	3.5	4.0	4.5	5.0	5.5	5.5	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
55	11.20	.1	.3	.8	1.3	1.8	2.25	3.0	3.5	4.0	4.5	5.0	5.5	5.5	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
56	11.10	.1	.25	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	4.9	5.4	5.4	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
57	11.00	0	.25	.75	1.25	1.75	2.25	2.8	3.5	4.0	4.5	4.8	5.4	5.4	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
58	11.36	.1	.3	.8	1.3	1.6	2.25	3.0	3.5	4.0	4.5	5.0	5.5	5.5	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
59	11.18	.1	.25	.75	1.25	1.8	2.25	3.0	3.5	4.0	4.5	5.0	5.5	5.5	6.0	6.4	7.0	7.4	8.0	8.3	9.0	9.6
60	10.56	0	.1	.6	.8	1.25	1.75	2.4	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.4	7.8	8.25	8.75	9.75
41**	10.58	0	.1	.3	.8	1.25	1.75	2.25	2.75	3.4	3.75	4.6	5.0	5.5	6.0	6.5	7.0	7.4	7.8	8.25	8.75	9.75
42	10.56	0	.1	.25	.75	1.25	1.75	2.25	2.75	3.5	4.0	4.5	5.1	5.5	5.8	6.5	6.75	7.5	7.8	8.3	8.75	9.6
43	10.52	0	0	.25	.75	1.1	1.75	2.25	2.6	3.5	4.0	4.5	5.0	5.5	6.0	6.5	6.75	7.4	8.0	8.4	9.0	9.6
44	10.58	0	.1	.25	.75	1.1	1.75	2.25	2.6	3.5	4.0	4.5	5.0	5.4	6.0	6.25	7.0	7.5	7.75	8.25	8.75	9.5
45	10.46	0	0	.25	.6	1.1	1.6	2.1	2.75	3.4	4.0	4.5	5.0	5.5	5.8	6.5	7.0	7.4	7.75	8.3	8.75	9.5
46	10.50	0	0	.3	.6	1.1	1.6	2.1	2.75	3.4	4.0	4.5	5.0	5.4	5.75	6.5	7.0	7.5	8.0	8.5	8.6	9.75
47	10.50	0	0	.3	.75	1.1	1.75	2.25	2.75	3.5	4.0	4.5	5.0	5.4	6.0	6.4	7.0	7.4	8.0	8.5	8.75	9.6
48	10.40	0	0	.25	.6	1.0	1.6	2.1	2.75	3.3	3.75	4.25	4.8	5.3	5.75	6.25	6.75	7.4	7.75	8.4	8.75	9.5
49	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.4	4.0	4.4	4.8	5.4	5.75	6.4	6.75	7.4	8.0	8.5	8.75	9.6
50	10.50	0	0	.25	.6	1.1	1.6	2.1	2.8	3.5	4.0	4.4	4.8	5.4	6.0	6.4	7.0	7.4	8.0	8.25	9.0	9.6
51	11.14	.1	.25	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.5	5.1	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.4	10.6
52	11.14	.1	.25	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.4	10.5
53	11.20	.1	.3	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.1	8.5	9.0	9.4	10.5
54	11.22	.1	.3	.8	1.3	1.8	2.25	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.1	8.5	9.0	9.5	10.6
55	11.20	.1	.3	.8	1.3	1.8	2.25	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.1	8.5	9.0	9.5	10.6
56	11.10	.1	.25	.75	1.25	1.75	2.25	2.75	3.5	4.0	4.5	4.8	5.4	5.9	6.4	7.0	7.5	8.0	8.4	8.9	9.3	10.25
57	11.00	0	.25	.75	1.25	1.75	2.25	2.75	3.5	4.0	4.5	4.75	5.4	5.9	6.4	7.0	7.4	7.8	8.3	8.75	9.25	10.0
58	11.36	.1	.3	.75	1.25	1.8	2.25	3.0	3.5	4.0	4.5	5.0	5.5	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.5	10.6
59	11.18	.1	.25	.75	1.25	1.75	2.25	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.4	10.5
60	10.54	0	.1	.6	.8	1.25	1.75	2.4	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.4	8.0	8.4	8.75	9.8

REMARKS: 1. All springs were stress-relieved for 30 minutes at 400°F and heat-set.

(Compress to five inches and heat at 400°F for one hour).

2. Springs 41 thru 50 were stored loaded.

3. Springs 51 thru 60 were stored unloaded.

4. *Load and height checks prior to weapon firing

5.**Load and height checks after weapon firing.

ILLUSTRATIONS

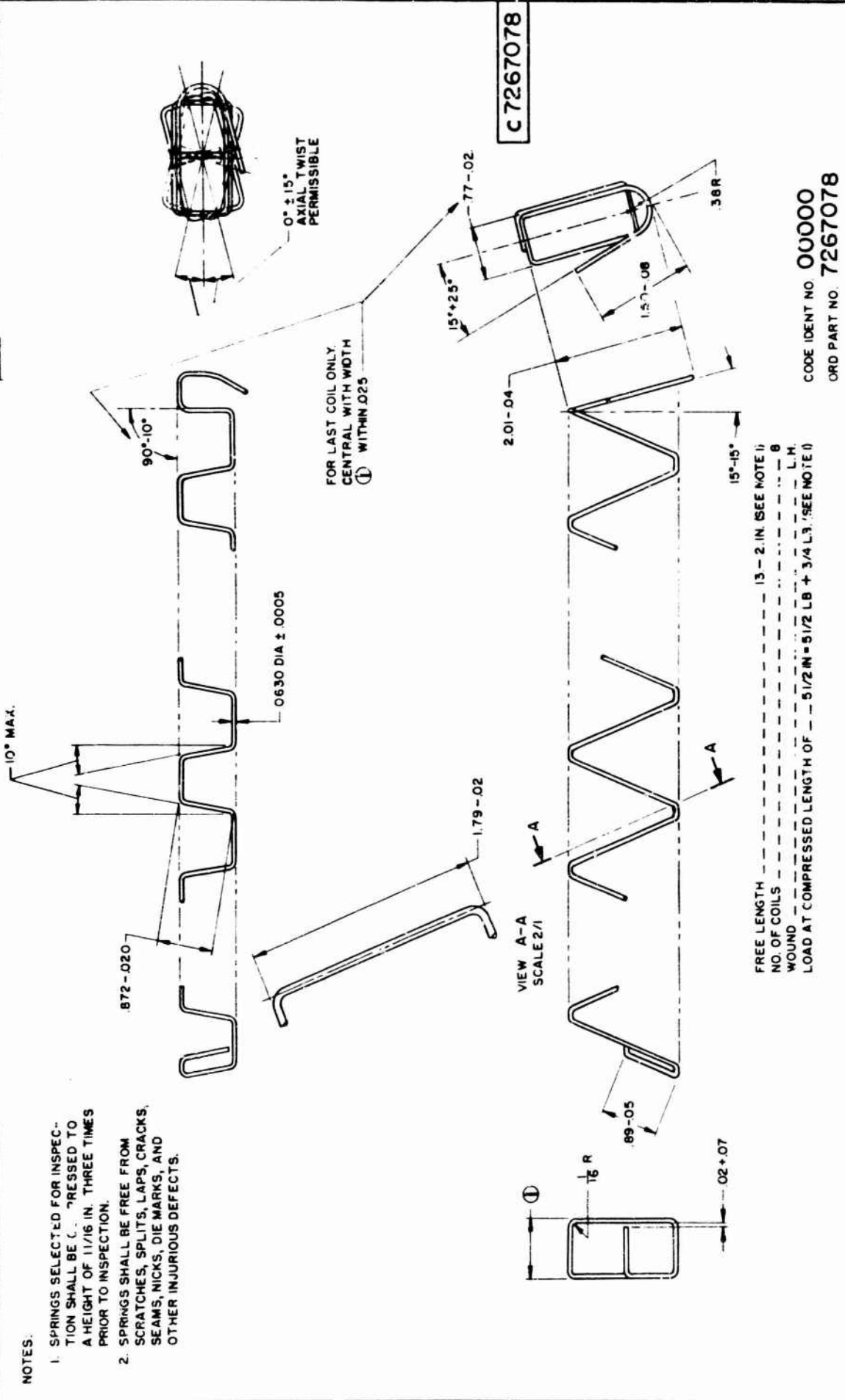
<u>Drawing</u>	<u>Title Caption</u>
1. C7267078, Rev E, 18 Feb 59	Spring, Magazine (Standard)
2. C7267078, Rev F, 15 Jan 60	Spring, Magazine (Standard)
3. C7267078, Rev G, 21 Nov 62	Spring, Magazine (Standard)
4. SA-C38193, 9 Jan 57	Spring, Magazine (Experimental)



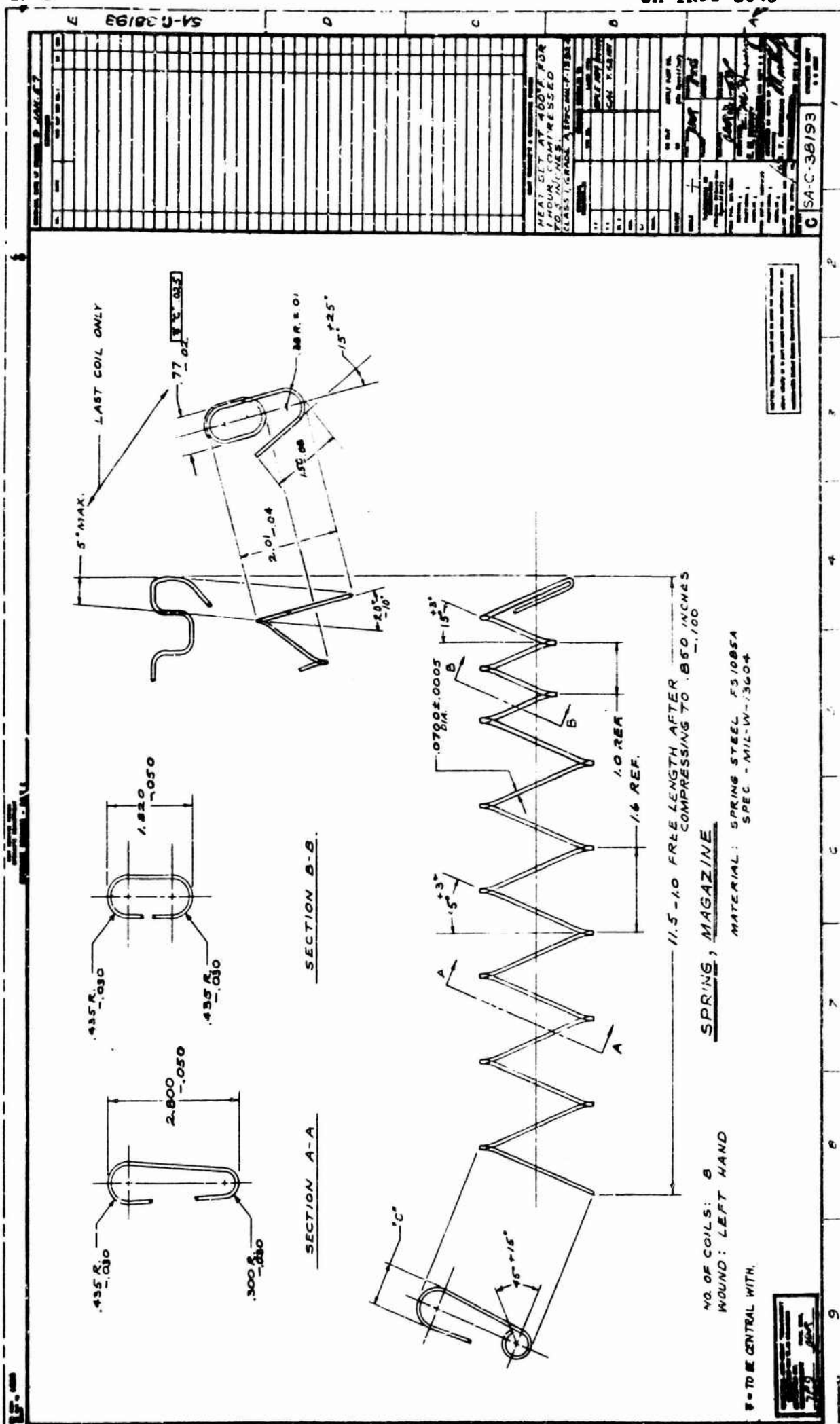


NOTES: 1. SPRINGS SELECTED FOR INSPECTION SHALL BE COMPRESSED TO A HEIGHT OF 1 1/16 IN. THREE TIMES PRIOR TO INSPECTION. 2. SPRINGS SHALL BE FREE FROM SCRATCHES, SPLITS, LAPS, CRACKS, SEAMS, NICKS, DIE MARKS, AND OTHER INJURIOUS DEFECTS.

REV	DATE	APPROVAL
1	15 JUN 60	REMOVED
2	15 JUN 60	REMOVED
3	15 JUN 60	REMOVED
4	15 JUN 60	REMOVED

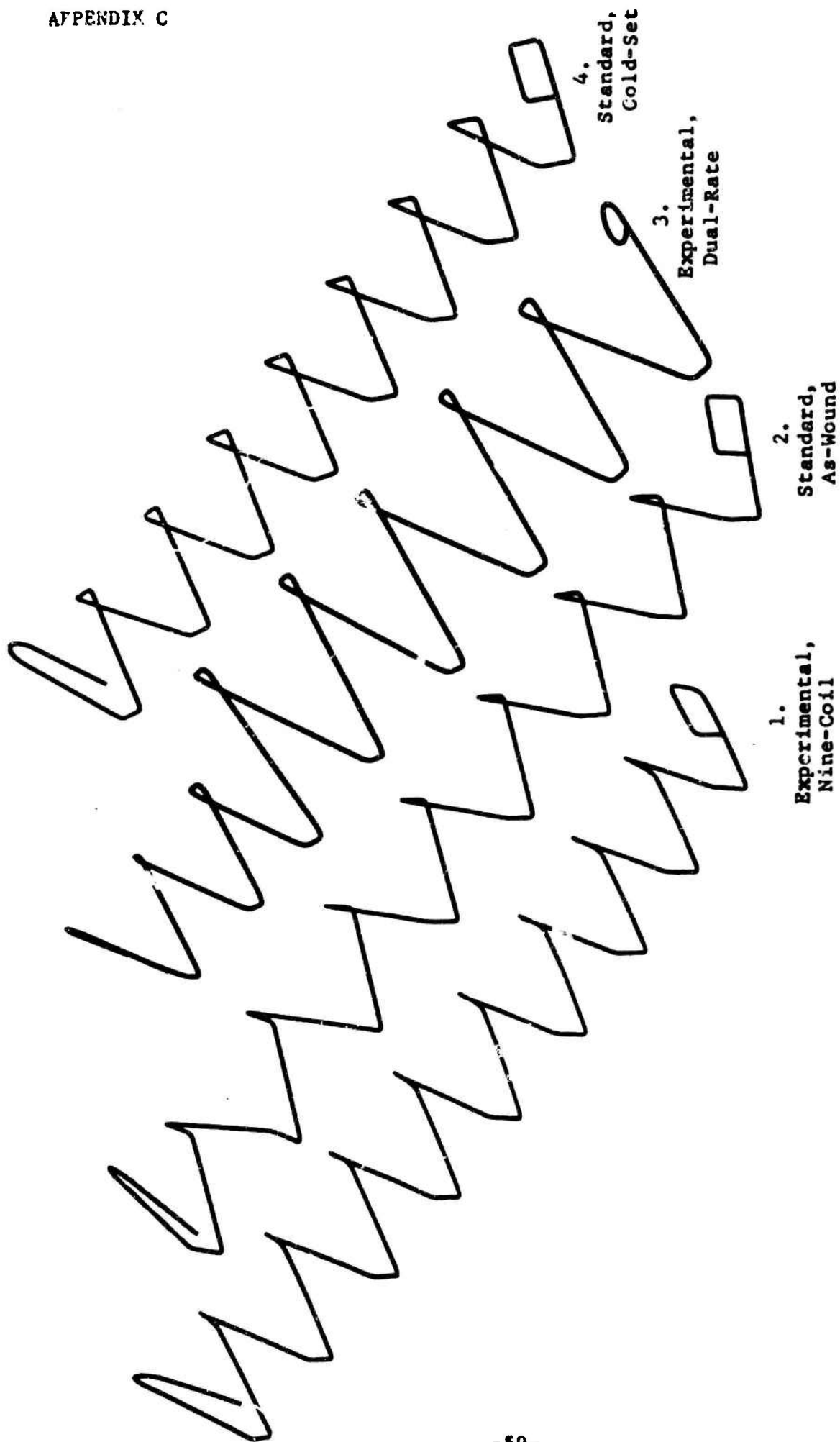


PHYSICAL PROPERTIES TYPICAL TENSILE YIELD ELONG REDUCED SECTION AREA LOSS AFTER TENSILE TESTING PER MIL-STD-883C METHOD 2000		07790183 RIFLE, M14 SEE ENGRG RECORDS NET ASST APPLICATION DO NOT APPLY PART NO	MATERIAL STEEL, SPEC MIL-W-13604 FS1085A HEAT TREATMENT AFTERWORKING STRESS RELIEVE 30 MIN AT 400°F : 25°F FINAL PROTECTIVE FINISH NONE	TOLERANCES ON DIMENSIONS UNLESS OTHERWISE SPECIFIED FRACTIONS 1/16 IN	ORIGINAL DATE OF DRAWING 10 OCT 54 DRAWN BY CHECKED BY INCHES SUBMITTER APPROVED BY UNIT OF ORIGIN
SPRING, MAGAZINE SPRINGFIELD ARMOY ORDNANCE CORPS DEPT OF THE ARMY SPRINGFIELD, MASS.		CODE IDENT NO. 000000 ORD PART NO. 7267078		SCALE 1/1 UNIT WT 7267078	



ILLUSTRATIONS

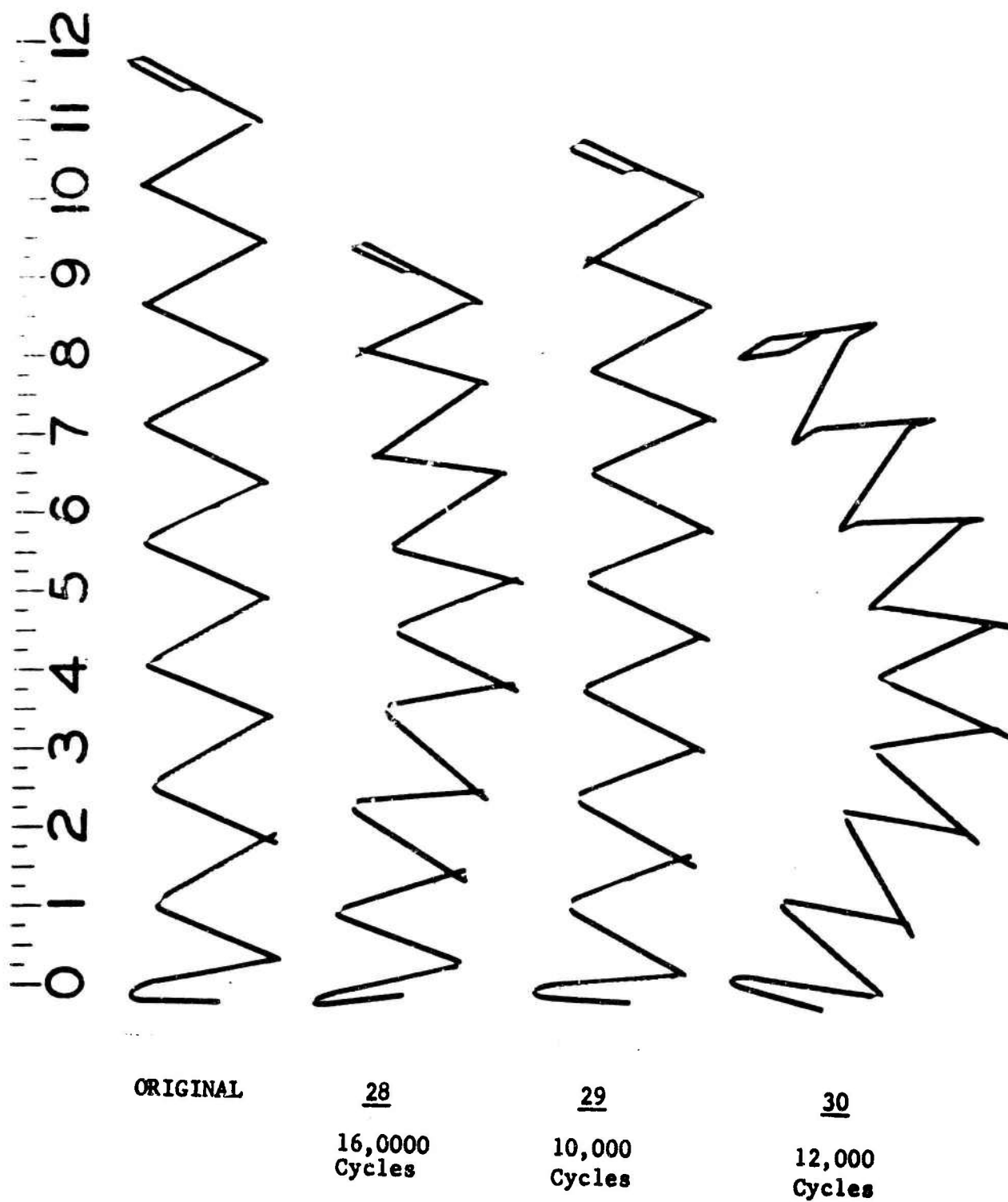
<u>Photograph</u>	<u>Title Caption</u>
1. 19-058-1258/ORD-61	Magazine Springs: 1. Experimental, Nine-Coil 2. Standard, As-Wound 3. Experimental, Dual-Rate 4. Standard, Cold-Set
2. 19-058-15/ORD-60	Gymnasticating Test: Springs Stress-Relieved and Cold-Set by Contractor
3. 19-058-16/ORD-60	Gymnasticating Test: Springs Stress-Relieved at 400°F for 1/2 Hour and Heat-Set at 5 Inches for 1 Hour at 400°F
4. 19-058-202/ORD-60	Firing Test: Springs Stress-Relieved at 400°F for 1/2 Hour and Cold-Set to 11/16 Inch Three Times
5. 19-058-203/ORD-60	Firing Test: Springs Stress-Relieved at 400°F for 1/2 Hour and Heat-Set at 5 Inches for 1 Hour at 400°F
6. 19-058-1259/ORD-61	Adjustable Fixture with M14 Magazine Spring in Position
7. 19-058-1260/ORD-61	Load Check Setup for the M14 Magazine Spring



MAGAZINE SPRING FOR RIFLE, 7.62MM, M14

19-058-1258/ORD-61

GYMNASTICATING TEST
SPRINGS STRESS-RELIEVED AND COLD-SET BY CONTRACTOR

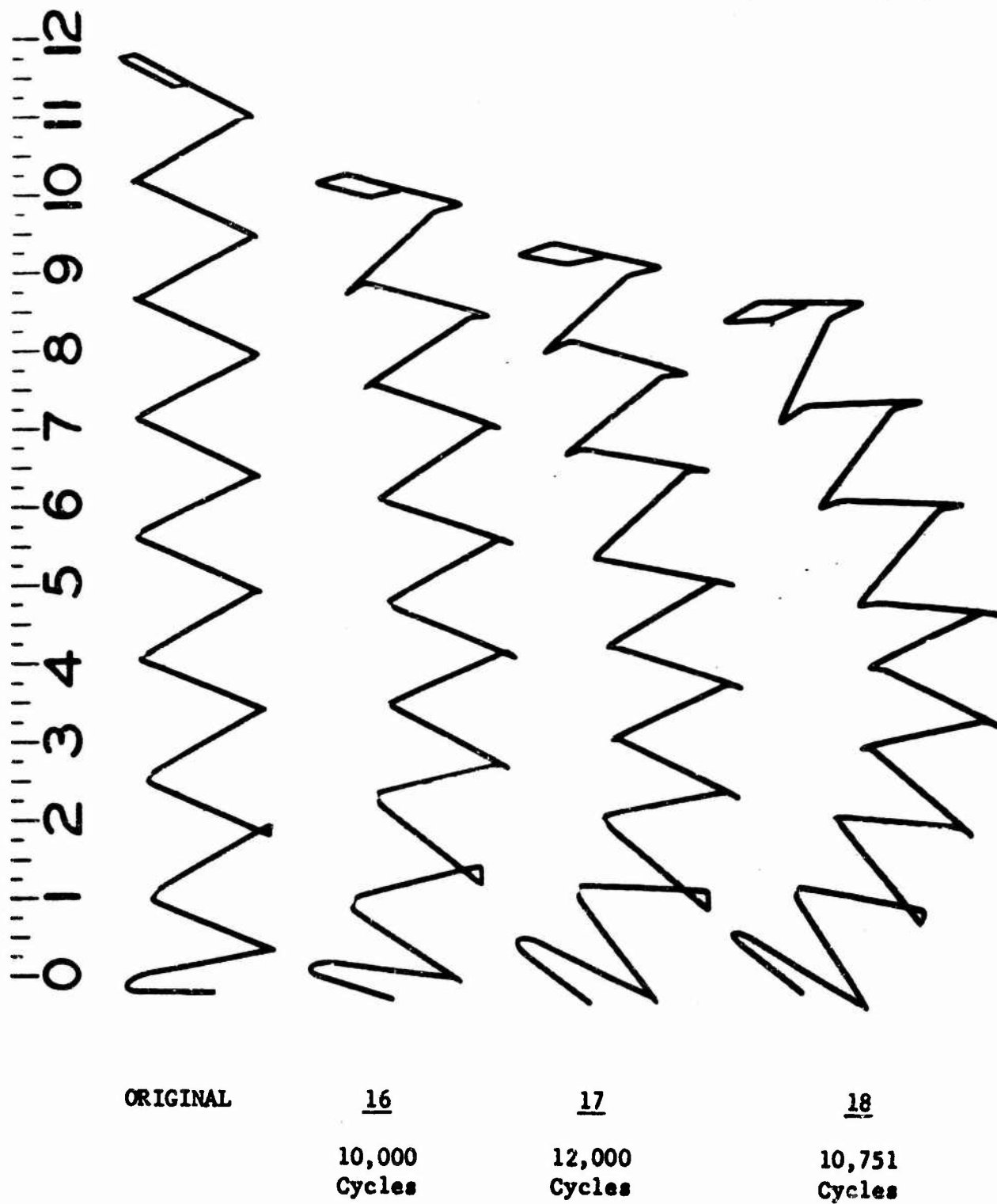


19-058-15/ORD-60

MAGAZINE SPRING FOR RIFLE, 7.62MM, M14

GYMNASTICATING TEST

SPRING STRESS-RELIEVED AT 400°F FOR 1/2 HOUR
AND HEAT-SET AT 5" FOR 1 HOUR AT 400°F



19-058-16/ORD-60

MAGAZINE SPRING FOR RIFLE, 7.62MM, M14

FIRING TEST
SPRINGS STRESS-RELIEVED. AT 400°F FOR 1/2 HOUR
AND COLD-SET TO 11/16" THREE TIMES



SPRING 9 - 2000 ROUNDS



SPRING 8 - 2000 ROUNDS



SPRING 7 - 2000 ROUNDS

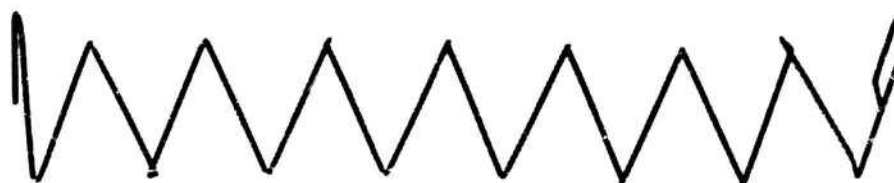


ORIGINAL

FIRING TEST
SPRINGS STRESS-RELIEVED AT 400°F FOR 1/2 HOUR
AND HEAT-SET AT 5" FOR 1 HOUR AT 400°F



SPRING 15 - 2000 ROUNDS



SPRING 14 - 2000 ROUNDS



SPRING 13 - 2000 ROUNDS



ORIGINAL



19-058-203/ORD-60

MAGAZINE SPRING FOR RIFLE, 7.62MM, M14

APPENDIX C

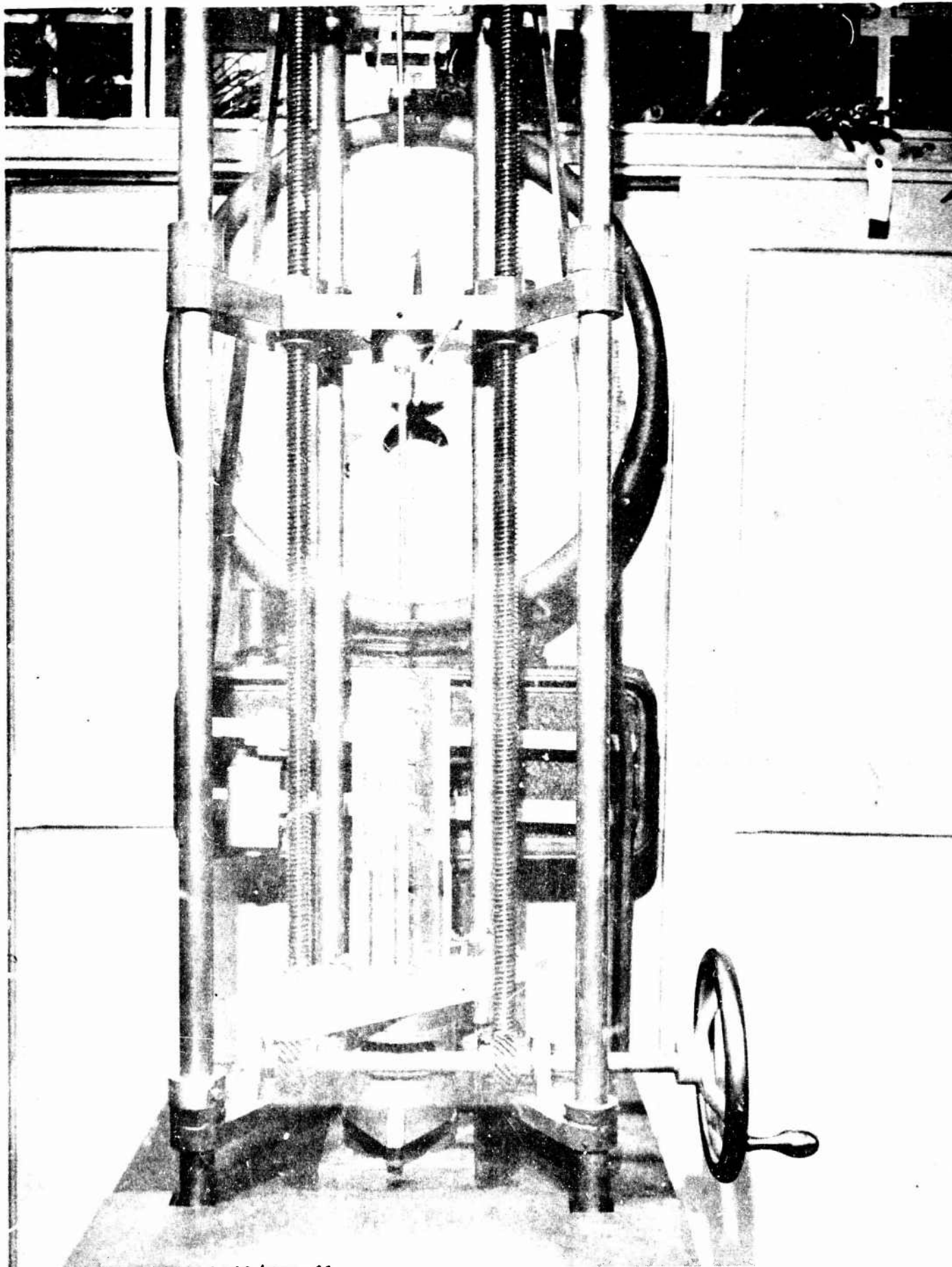
REPORT
SA-TR11-2643

19-058-1259/ORD-61

ADUSTABLE FIXTURE WITH M14 MAGAZINE SPRING IN POSITION

APPENDIX C

REPORT
SA-TR11-2643



19-058-1260/ORD-61

LOAD CHECK SETUP FOR M14 MAGAZINE SPRING

REPORT
SA-TR11-2643

APPENDIX D

DISTRIBUTION

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Springfield Armory, Springfield, Massachusetts 01101		Unclassified	
		2b GROUP	
		N/A	
3 REPORT TITLE			
EVALUATION OF PRETREATMENT PROCESSES AND LONG-TERM STORAGE ON MAGAZINE SPRING FOR THE M14, 7.62MM, RIFLE			
4 DESCRIPTIVE NOTES (Type of report and inclusive dates)			
Technical Report			
5 AUTHOR(S) (Last name, first name, initial)			
A. H. LaRiviere			
6 REPORT DATE		7a. TOTAL NO. OF PAGES	7b NO. OF REFS
1 February 1966		70	None
8a. CONTRACT OR GRANT NO. N/A		9a. ORIGINATOR'S REPORT NUMBER(S)	
b. PROJECT NO. M1-4-23002		SA-TR11-2643	
c. AMCMS CODE 4930.25.6271.20.01		9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
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11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY	
None		U.S. Army Materiel Command	
13. ABSTRACT			
<p>A study was made to evaluate the effects of various pretreatment processes and long-term storage on the magazine spring for the M14, 7.62mm, rifle. The various pretreatment processes considered in this study were: (1) stress-relieving <u>only</u>, (2) stress-relieving and cold-set, (3) stress-relieving and heat-set, and (4) heat-set <u>only</u>. The storage tests involved periods from 1 to 5 years and consisted of hot, cold, and normal temperature conditions. Test procedures are described and results discussed.</p>			

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
<p>1. Pretreatment processes</p> <p>2. Long-term storage</p> <p>3. M14, 7.62mm, rifle</p> <p>4. Magazine spring - M14, 7.62mm, rifle</p> <p>5. Temperature conditions</p>						

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